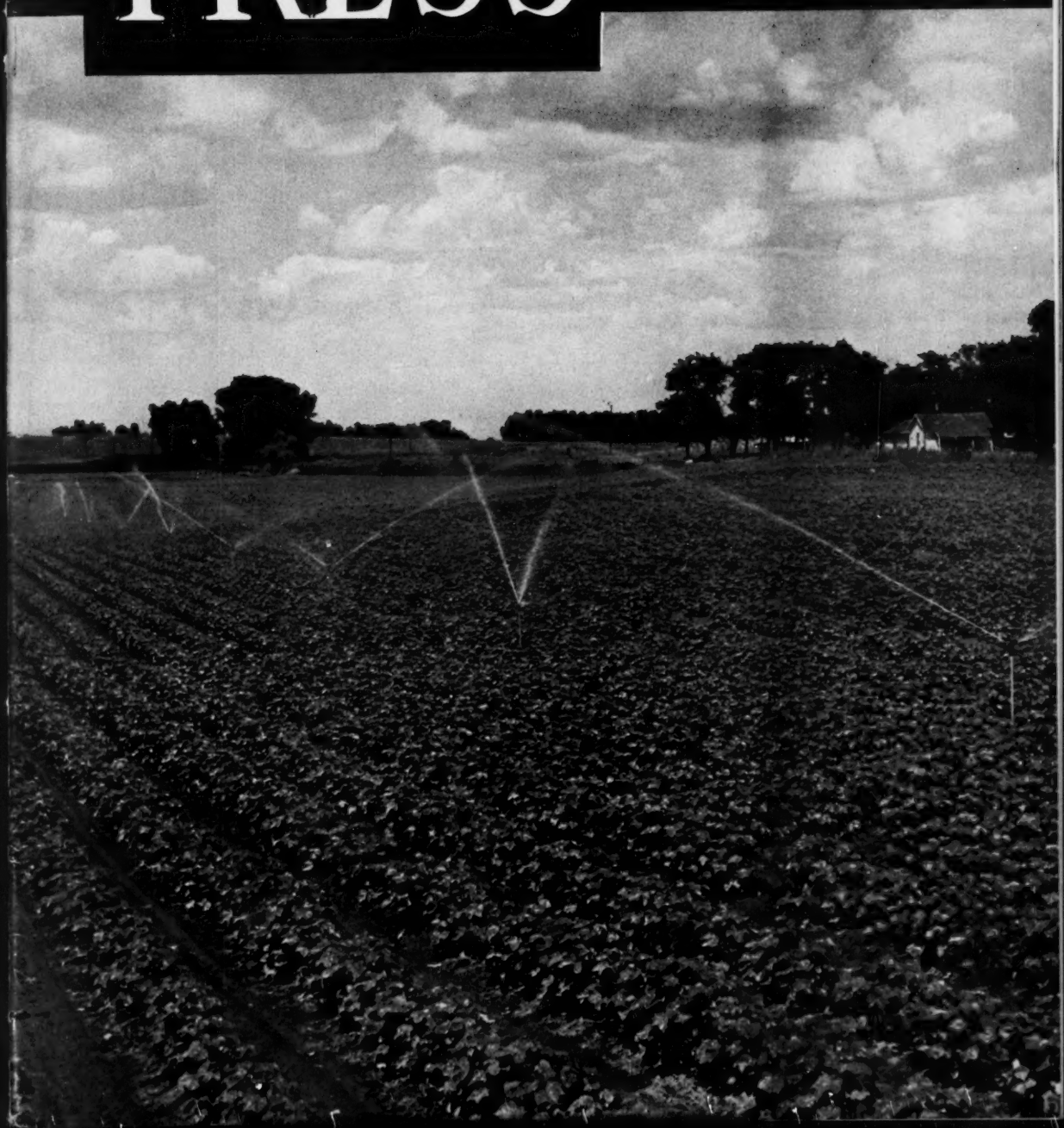
PRESS

52nd YEAR



LUMMUS CLEANING AND HULL EXTRACTING GROUPS

Where maximum cleaning is required, the Lummus Unit Groups are ideal. By-pass arrangement allows greatest possible flexibility. Hot Air Cleaner provides good distribution to Hull Separator. Hull Separators come 10′ with five cylinders; 14′ with six cylinders —and cause no mechanical damage to fibres. Can be grouped with or without after-cleaner. Shown at right, the 14′ "Great Western" group. Write for Bulletin 632.

Bulletin No. 631 covers "Dixie Belle" 10′ group.

LUMMUS COTTON GIN CO.

Lummus is doing more to put gins on a better paying basis.

DALLAS, TEXAS COLUMBUS, GEORGIA MEMPHIS, TENNESSEE

Continental's Four-X Huller-Cleaner-Feeder Recommended for extremely rough cotton

Cotton, passing through this machine, is subjected to three mechanical strippings, and is cleaned both **before** and **after** extraction.

When used in connection with CONTINENTAL 2-Way Moting Gins our Four-X Huller-Cleaner-Feeder can be fitted with our patented Roll Density Indicator with Automatic Control, which insures uniform density of roll in gin breast and results in smooth sample and increased capacity.

Write for Bulletin 180-B giving complete description.

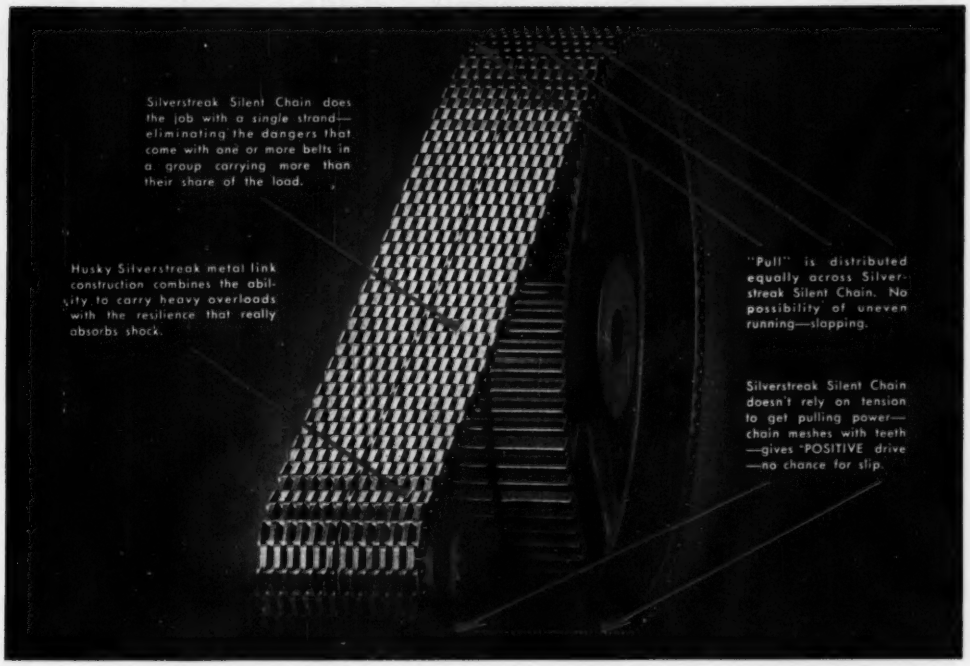
Continental GIN COMPANY

BIRMINGHAM, ALABAMA

ATLANTA ● DALLAS ● MEMPHIS

Entered as second-class matter February 4, 1905, at the Post Office at Dallas, Texas, Under Act of Congress of March 3, 1897

Get full rpm transmission...


Silverstreak Silent Chain does the job with a single strand—eliminating the dangers that come with one or more belts in a group carrying more than their share of the load.
Husky Silverstreak metal link construction combines the ability to carry heavy overloads with the resilience that really absorbs shock.
"Pull" is distributed equally across Silverstreak Silent Chain. No possibility of uneven running—slapping.
Silverstreak Silent Chain doesn't rely on tension to get pulling power—chain meshes with teeth—gives POSITIVE drive—no chance for slip.

LINK-BELT Silverstreak Silent Chain Drives

Slip-proof Slap-proof Shock-proof

TAKE the proven road to increased production — through the best in high-speed power transmission. You'll find Link-Belt Silverstreak Silent Chain Drives are 98.2% efficient. With normal maintenance, you have a *positive* drive that runs for years and years.

And note this important point — on extremely short centers Silverstreaks lose none of their efficiency. What's more, reduction ratios as high as 10-to-1 are frequently used. Both of these Silverstreak features save you valuable space.

One test will prove to you why thousands of production-minded engineers have standardized on Link-Belt Silverstreak Silent Chain Drives.

LINK-BELT

12,350-A

SILVERSTREAK SILENT CHAIN DRIVES

LINK-BELT COMPANY, Atlanta, Dallas 1, New Orleans 12, St. Louis 1, Charlotte 2, N. C., Baltimore 18, Birmingham 3, Houston 1, Jacksonville 2. Distributors Throughout the South

Stop Insect Losses!
USE COTTON POISONS
The Right Way

Cotton Insect Control Pays Off!

Use recommended insecticides, but use them right to obtain the greatest benefits. Follow your local recommendations for timing, method and rate of application, and number of applications, to get the most for your insecticide dollar. Consult your county agent for detailed information for your locality.

Many cotton farmers have learned that toxaphene dusts and sprays are an economical and effective way to control insect pests. Toxaphene insecticides are recommended by leading cotton-growing states. They control not just one or two, but practically every insect pest which damages cotton. If you cannot get enough toxaphene insecticides, consult your local dealer or agricultural authorities on other recommended methods of controlling cotton insects. Send for free illustrated booklets, "Cotton Insects," "The Death of a Boll Weevil," and "More Profit Per Acre."

HERCULES POWDER COMPANY
943 King Street, Wilmington, Delaware

This advertisement is being seen by more than 1,000,000 readers of:

ACCO PRESS
PROGRESSIVE FARMER

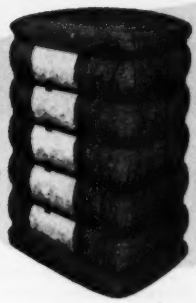
TOXAPHENE dusts • sprays

THE CHEMICAL BASE FOR TOXAPHENE IS PRODUCED BY HERCULES FROM THE SOUTHERN PINE

NX51-23 R

Atlantic Steel Company

took its first step with cotton ties



FIFTY YEARS AGO, when cotton was king in Georgia, only two products were rolled by Atlantic Steel Company—cotton ties and hoop.

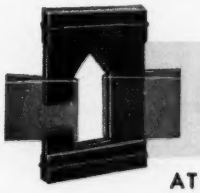
Making fine-quality cotton ties has never ceased to be an important part of our business, even though the list of DIXISTEEL products has grown during the half-century from two to 65, including DIXISTEEL Buckles.

Made strong at the start from our own special-analysis steel, DIXISTEEL Cotton Ties are rolled to exacting specifications to assure uniform quality, strength, durability and finish.

DIXISTEEL Buckles are made to withstand strain and pull; they won't give way or cut the tie. Scientifically designed, they thread easily, provide firm seating and will not slip up or down.

Specify DIXISTEEL—the ginner's favorite for half-a-century.

Standard bundles weigh approximately 45 pounds and contain 30 ties—each 15/16 inches by approximately 19½ gauge, 11½ feet long. Thirty buckles attached to each bundle. Sixty-pound ties also are made. Both weights available without buckles. Buckles shipped in kegs or carload bulk lots.



DIXISTEEL TRADE MARK **COTTON TIES AND BUCKLES**

ATLANTIC STEEL COMPANY · ATLANTA, GEORGIA

Experience Is a Sure Teacher!

SKELLYSOLVE FOR ANIMAL AND VEGETABLE OIL EXTRACTION

Applications

SKELLYSOLVE B. Making edible oils and meals from soybeans, corn germs, cocoanuts, peanuts, cottonseed and the like.

SKELLYSOLVE C. Making both edible and inedible oils and meals, particularly where lower volatility than that of Skellysolve B is desired because of warm condenser water.

SKELLYSOLVE D. Quality solvent at competitive prices. For degreasing meat scraps, extracting oil-saturated fuller's earth, general extraction uses.

SKELLYSOLVE F. Extracting cottonseed meals and other products in laboratory analytical work. Originally made to conform to A.O.C.S. specifications for petroleum ether, and for pharmaceutical extractions where finest quality solvent is desired.

SKELLYSOLVE H. Making edible and inedible oils and meals where greater volatility is desired than that of Skellysolve C or D.

"DOC" MacGEE SAYS: Some skills are hard to come by . . . can only be won by years of painstaking effort. Skellysolve has just such a background.

Years of experience in serving the solvent needs of firms making both edible and inedible oils and meals . . . and other industries processing a wide variety of oleaginous materials . . . prove the complete satisfactoriness of Skellysolve.

You can depend on Skellysolve having the quality you demand . . . batch after batch. Depend on it for close boiling ranges . . . low order of toxicity . . . low sulphur content . . . sweet odor . . . fast vaporization from oils and meals. Depend on Skellysolve, too, for low end points . . . low solvent losses . . . a minimum of excessively volatile compounds . . . and a minimum of unsaturates and pyrogenic decomposition products.

Dependability in supply is another good reason for standardizing on Skellysolve for your solvent needs. Skelly Oil Company has what it takes in raw materials and in manufacturing facilities to keep you supplied year after year with the same high-quality solvents.

If you have a solvent problem that demands special study, you are invited to consult with our Skellysolve Technical Fieldmen. Write for more detailed information.

SKELLY

Skellysolve

SOLVENTS DIVISION, SKELLY OIL COMPANY
KANSAS CITY, MISSOURI

for finer cotton in 1951...

★ Colorado .44 Aldrin and Combinations.
★ Colorado .44 Toxaphene and Combinations.
★ Colorado .44 Parathion
★ 153 Colorado .44 Insecticides for every use in cotton.
★ Colorado .44 25% Emulsifiable DDT
★ Chlordane, and Chlordane and DDT Combinations.
★ Special blends and mixtures to fit your specifications.

CHEMICAL CORPORATION OF COLO. • 1592 W. 12TH ST. • DENVER, COLO.

Chemical Corporation of Colo.
1592 W. 12th Street
Denver, Colo.

Tell us how we can improve cotton by specifying Colorado .44 insecticides.

Name_____

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CUT FUEL COSTS IN HALF

when GM Diesel took over

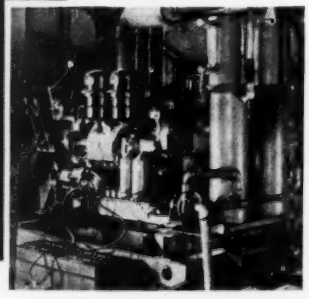
WHEN the Evergreen Gin switched from steam to GM Diesel power, a lot of things happened.

First, fuel costs were cut in half. Maintenance nose-dived. No fireman was needed. The gin was ready to go at the touch of a button. And, very important, a fire hazard was eliminated.

Manager W. T. Chapman, who ginned his first bale of cotton in the Evergreen Gin in 1912, says, "The GM engine is more satisfactory in every way. You couldn't *give* me a brand new steam engine today."

GM Diesels are 2-cycle engines with power on every piston downstroke. They're smooth, quick starting, pick up their load fast, and plug along day in and day out with little attention.

Cotton ginners everywhere are astonished at the money GM Diesels save them. It's sure worth looking into. Let us see that you get full details.



A GM Series 71 Diesel "Twin 6" provides surplus power for 4-80 gin of Evergreen Gin Co., Inc., Evergreen, Alabama—will easily power 5 stands plus additional drying equipment. Mr. Chapman's daughter Catherine, who is cotton grader for Evergreen Gin, is shown with her father

ANSWER THE CALL CIVIL DEFENSE

DETROIT DIESEL ENGINE DIVISION

SINGLE ENGINES...*Up to 275 H. P.* **DETROIT 28, MICHIGAN** MULTIPLE UNITS...*Up to 800 H. P.*

GENERAL MOTORS

GM GENERAL MOTORS DIESEL POWER

DIESEL BRAWN WITHOUT THE BULK

E. F. Craven Company
GREENSBORO, NORTH CAROLINA

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Lewis-Diesel Engine Company
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Diesel Power Co.
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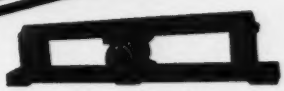
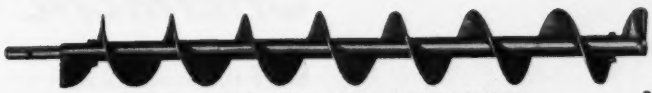
When you need Conveyors, Elevators, or Power Transmission Equipment.....

Specify CONTINENTAL



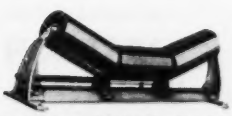
"DS" TAKEUPS



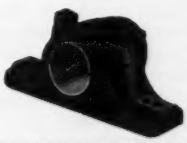
SCREW CONVEYORS AND ACCESSORIES

SCREW ELEVATORS

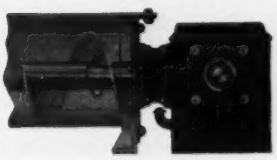
BUCKET ELEVATORS



BELT CONVEYOR IDLERS AND ACCESSORIES



BABBITTED AND SKF PILLOW BLOCKS



COUNTER SHAFT BOX ENDS

V-BELTS AND SHEAVES

SPROCKETS AND CHAIN

Materials handling and power transmission equipment engineered and manufactured by Continental is famous for long life, dependability and economical operation.

Send us your problem or requirements. Our engineers will gladly assist you in designing an efficient layout, planned for long service and low maintenance expense.

INDUSTRIAL DIVISION

CONTINENTAL GIN COMPANY

BIRMINGHAM, ALABAMA

ENGINEERS CGC ATLANTA • DALLAS • MEMPHIS • NEW YORK CGC MANUFACTURERS

FORMULATORS & DUST MIXERS...

BASIC CHEMICALS

GC

FOR AGRICULTURE

When you specify "General Chemical," you get the best in basic toxicants for dust mixes and spray concentrates. And you buy from a single, dependable source, with a background of sound research and production experience spanning four decades.

Such a combination is important in all your operations: purchasing, formulating and processing. It means you will be using materials that are trouble-free . . . in your equipment and in the fields. So be sure of your source—specify "General Chemical"!

For Year-in, Year-out Dependability

Specify "GENERAL CHEMICAL"

DDT Technical and Dust Base

BHC Technical and Dust Base

CALCIUM ARSENATE
Standard & Low Lime

PARATHION Dust Base

LINDANE
Technical and Dust Base

NICOTINE Sulfate & Alkaloid

COTTON DEFOLIANT
(Potassium Cyanate)

Makers of Orchard* Brand Insecticides and Fungicides

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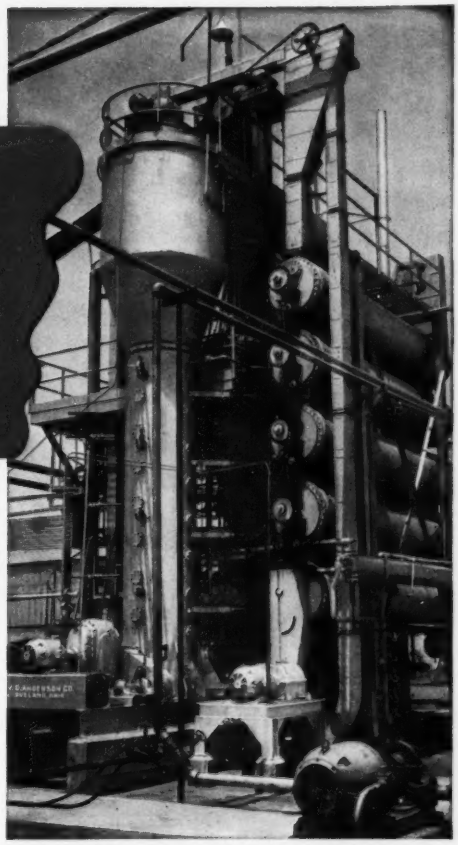
Parathion Spray Powder and Emulsifiable Concentrate
Ferbam—Organic Fungicide
Lindane—Spray Powder and Emulsifiable Concentrate
DDT Spray Powders and Emulsion
DDD Dust Base and Wettable Powder
Paris Green
BHC Spray Powders and Emulsion
Micro-Dritomic* Sulfur—Sulfur Fungicide
Spraycop*—Copper Fungicide
"Puratized"—Mercury Fungicide
Ziram—Organic Fungicide

*Reg. U. S. Pat. Off.

GENERAL CHEMICAL DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 Rector Street, New York 6, N. Y.
Offices in Principal Agricultural Centers from Coast to Coast

ANOTHER *Exsolex* INSTALLATION



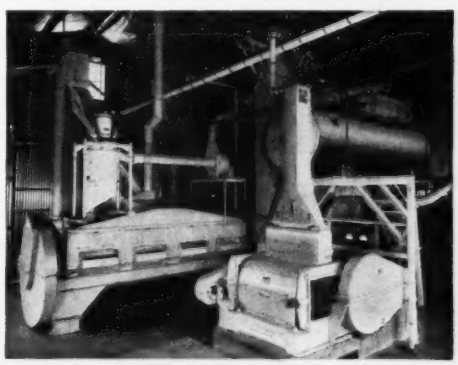
Anderson Solvent Extraction Unit at Buena Park, California

THIS TIME FOR THE GLIDDEN CO. BUENA PARK, CALIFORNIA

The parade of Exsolex installations continues: The latest addition to the list is a new Exsolex oil mill located at the Buena Park, California, plant of The Glidden Company. This installation marks another milestone in the selection of Exsolex by important oil millers. The efficient Exsolex process produces a remarkably low residual oil in the meal . . . less than 1% on all oleaginous materials . . . below .5% on many . . . and the quality of oil is excellent.

Many other Exsolex mills are now being completed and will be reported to you in future advertisements. Truly no oil miller can afford to miss getting the facts on this system of extracting vegetable oil. Write today and an Anderson engineer will call without obligation.

THE V. D. ANDERSON COMPANY
1941 WEST 96th STREET • CLEVELAND 2, OHIO



View of drier and conditioner mounted over flaker

ANDERSON
EXPELLERS • SOLVENT EXTRACTION • EXSOLEX
World's Largest Suppliers of Extraction Equipment

Southern Cooks *prefer...*

FAMED throughout the nation as fine cooks, more Southern homemakers continue to choose Swift's Jewel shortening for better baking and frying.

Careful and scientific blending of choice ingredients to meet the rigid standards of Swift's laboratories results in a product of outstanding performance.

It's easy to understand why Jewel is a favorite in the South.

•

SWIFT & COMPANY

THE COTTON GIN AND OIL MILL

PRESS

52nd YEAR

THE MAGAZINE OF THE COTTON GINNING AND OILSEED PROCESSING INDUSTRIES

Volume 52 **July 7, 1951** **Number 14**

Published every other Saturday in our own printing plant at 3116 Commerce Street, Dallas 1, Texas

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Official Magazine of:

National Cottonseed Products Association

National Cotton Ginners' Association
Alabama Cotton Ginners' Association
Arkansas-Missouri Ginners' Association
Arizona Ginners' Association
California Cotton Ginners' Association
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Executive and Editorial Offices: 3116 Commerce St., Dallas 1, Texas

The Cover

THE COVER photograph shows cotton being irrigated with sprinklers. In many sections of the country sprinklers are much more practical than other methods, and also cheaper.

Photo by Bob Taylor

A PROGRESSIVE AND RESPONSIBLE PUBLICATION
READ BY COTTON GINNERS, COTTONSEED CRUSHERS AND OTHER OILSEED PROCESSORS FROM CALIFORNIA TO THE CAROLINAS

FORT WORTH PRODUCTS CAN SOLVE *Problems* IN YOUR MILL

IN THE FOLLOWING DEPARTMENTS

SEED HOUSE and CLEANING ROOM

- Pneumatic Seed Cooling Systems
- Pneumatic Seed Unloaders
- Automatic Power Shovels
- Steel Sand and Boll Reels
- Cotton Seed Sample Shakers with Automatic sample reducer

LINT ROOM

- Pneumatic Lint Flue Systems
- Lint Cleaning Beaters
- Brushless Linter Attachments
- Linter Saws and Magnet Boards
- Lint Condensers

CAKE and MEAL ROOM

- Cake Cutters & Breakers
- Cake Screening Equipment

ANYWHERE IN THE MILL WITH CONVEYING & POWER TRANSMISSION EQUIPMENT

•PNEUMATIC

- Pressure Seed and Hull Blowing Equipment
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- Exhaust Fans—Cyclone Separators

•MECHANICAL

Screw conveyors and accessories
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Multiple V-belt drives
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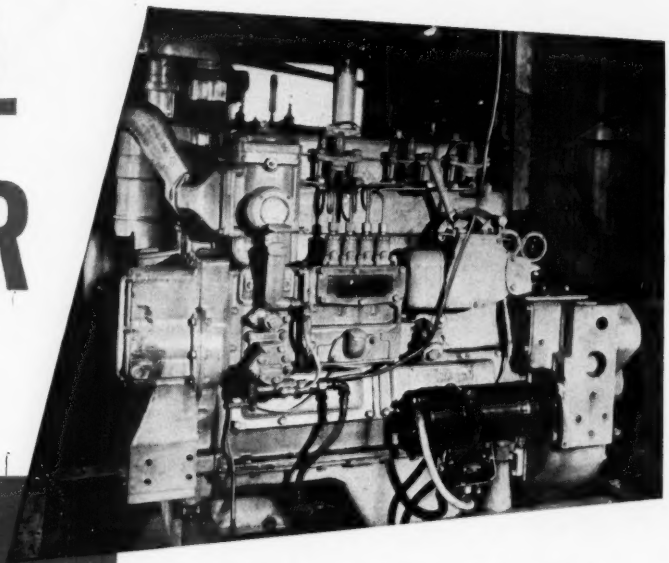
FORT WORTH STEEL AND MACHINERY CO.

MANUFACTURERS OF HIGH-GRADE OIL MILL EQUIPMENT

REDUCE the COST of DIESEL POWER



. . . by lubricating engines with TEXACO URSA OIL X★★

Down go maintenance costs, down goes fuel consumption, when you lubricate your Diesels with *Texaco Ursa Oil X★★*. This is the fully detergent and dispersive oil that *cleans as it lubricates.*

Thus, engines stay free of power-stealing carbon and sludge. Rings stay free for proper compression and combustion. *Texaco Ursa Oil X★★* gives top protection against wear and corrosion. Engine parts last longer. You get extra hours of trouble-free operation between scheduled overhauls. And —*Texaco Ursa Oil X★★* will guard your engines against rust, whether running or idle.

To reduce the maintenance cost of your enclosed gears, lubricate with *Texaco Meropa Lubricants.* Their "extreme pressure" characteristics shoulder the heaviest loads with ease and ward off wear. You can count on smoother operation, longer gear life.

Let a Texaco Lubrication Engineer help you select the proper cost-saving lubricants for all your machinery. Just call the nearest of the more than 2,000 Texaco Distributing Plants in the 48 States, or write The Texas Company, 135 East 42nd Street, New York 17, N. Y.

TEXACO

TEXACO Lubricants, Fuels and Lubrication Engineering Service

BIRD'S-EYE VIEW of the dairy farm at USDA's experimental farm near Beltsville, Md. The area visible here is only a small part of the 12,000-acre "laboratory" dedicated to scientific research.

SCIENCE AT WORK FOR AGRICULTURE

The Beltsville Story

■ THIS IS THE FIRST in a series of articles that will take ginners and oilseed processors on a behind-the-scenes visit to USDA's great research center at Beltsville, Md., where science is at work for American agriculture.

By Jay Richter

A BIRD'S-EYE VIEW of Beltsville, Md., 13 miles northeast of Washington, reveals an Agricultural Research Center that has cost U. S. citizens $13 million. That is the sum which has gone into buildings, equipment, roads and some 12,000 acres of land.

Many millions more have been spent to man the place and carry out the hundreds and thousands of research projects completed and in progress there. The investment is certainly one of the best ever made by the American people.

The payoff in terms of dollar gains to American agriculture and consumers dwarfs the cost.

Development of hybrid corn, in which Beltsville played a part, has meant as much as $750 million during a single year to American farmers. The plan for one-variety cotton communities was suggested in 1909 by O. F. Cook, a USDA scientist who worked at Beltsville.

Today, approximately 40 percent of the total U.S. cotton acreage is in one-variety communities, enabling growers to offer manufacturers large lots of uniform cotton. Ginnings limited to the adopted variety prevent mixture of lint and seeds with inferior cotton.

Top research brass at Beltsville are among the first to point out that their layout, vast as it is, represents only a part of the Agriculture Department's scientific effort. It coordinates and co-

FIRST IN A SERIES

USDA Photograph

THERE ARE TENS of thousands of animals, fowl and experimental insects at Beltsville, not to mention 2,300 people who work at the huge agricultural research center. Left, Beltsville goat; right, Jay Richter.

operates with state experiment stations and federal field offices in all parts of the country.

In a sense, Beltsville is a symbol of the continuing effort of man to improve his lot . . . not only here at home . . . but abroad. Technical experts from the research center are scattered over the world, involved in down-to-earth efforts to improve living standards wherever they are at work.

Some of their work is being financed with Marshall Plan funds; some of it with funds appropriated for the Point 4 program. Such men may be accomplishing more for world peace than all the diplomats of all the world.

Beltsville's physical layout in itself is impressive: there are 40 laboratory buildings, 100 barns and storage buildings, 500 small-animal and poultry houses, and 31 greenhouses—a glass canopy covering five acres.

There is a 3,000-acre experimental forest, and a 1,700-acre tract given over to experiments in soil conservation.

Approximately 2,300 people work at the research center, including agronomists and apiculturists, botanists and biochemists, nematologists and helminthologists, home economists and horticulturists, parasitologists and physicists, olericulturists and information specialists.

There are more animals than people at Beltsville, including not only cattle, hogs and goats, but guinea pigs, rabbits, rats and hamsters. There are more than 10,000 mature laying and breeding fowl.

What's more, there are insects.

These are carefully reared in cages and greenhouses and used in testing new insecticides. Some of them are confined to an Insect Clinic, a special building where their physical makeup is carefully studied.

An insect possesses stomach, kidneys, heart, blood, muscles, nerves and other cells, tissues and organs—even as you and me. When we learn something new about the way an insect works it may be easier to deal with him.

As a matter of fact, what we learn about insect behavior may help us in dealing with ourselves. Mr. Kinsey (author, "Sexual Behavior in the Human Male") studied insects before people.

Some of the continuing goals at which Beltsville is shooting include these:

(1) New and improved varieties of cotton, fruits, vegetables, grains, grasses, oil plants, drug plants and nuts.

(2) Improved methods of cold-storage, such as the recent experiment which showed that the eating and canning quality of the Kiefer pear (grown mostly in the southeastern states) is greatly improved by keeping the fruit at certain temperatures.

(3) Better understanding of fungi, (especially those that cause plant disease), of which Beltsville has 25,000 species.

(4) Better use of fertilizer through studies with radioactive tracers which show how it is used by plants.

Tests to date show that the actual amount of phosphorus used by cotton, corn, tobacco and soybeans is less than 10 percent of an application of 100 pounds of phosphoric acid.

(5) Better farm machinery through engineering studies aimed at improved design.

(6) Increased knowledge of the reasons for spoilage of agricultural products.

(7) Better forest management, especially methods of producing more timber faster.

(8) Eradication or better control of public enemies such as mosquitoes, flies and other insect pests.

(9) Improvement of the breeds of cattle, hogs, chickens, etc.

In some cases such experiments are aimed at new breeds which will do well in certain areas. An example is the cross-breeding of American Jerseys and India's Red Sindhi cattle to combine the heat resistance of the latter with the milk-producing capacity of the former. The result could be of special significance for the South, where milk production does not yet meet needs.

(10) Better diets through study of the nutritive value of various foods, research on cookery, home freezing and canning.

(11) Improved fabrics and fabrics which will more nearly meet consumer needs and demands.

Some kinds of textile testing must be done where the weather never changes. An air-conditioned laboratory at Beltsville is equipped with machines to measure fabrics for strength, stretch, and resistance to abrasion.

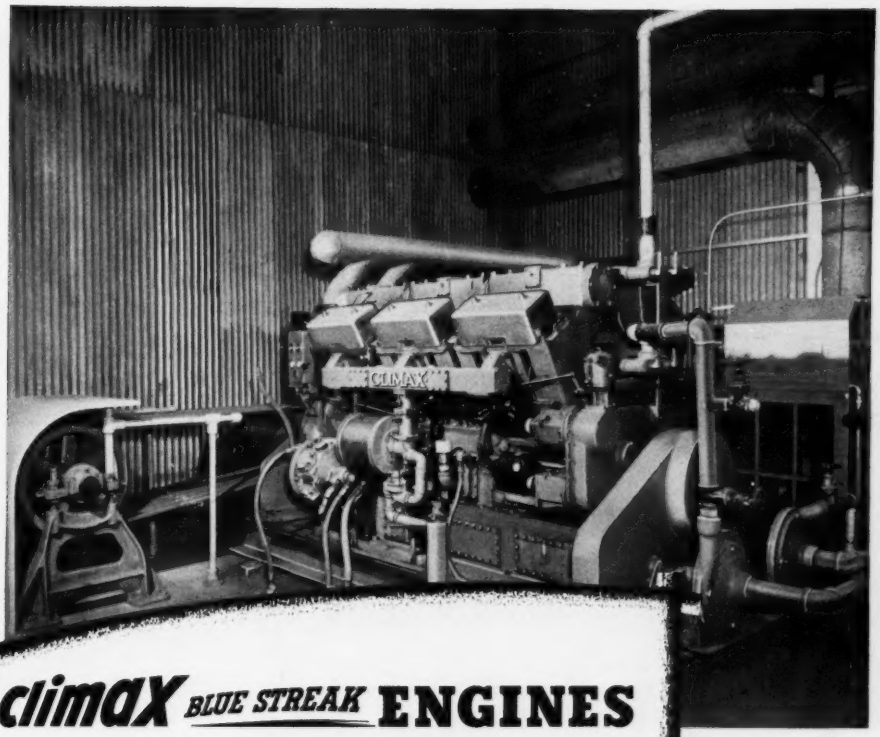
(The second article by Mr. Richter will appear in the July 21 issue.)

California Expects Labor Shortage Despite Machines

Despite an expected increase of from 1,400 to 1,800 more mechanical cotton pickers in use in the San Joaquin Valley this fall, producers there predict a severe shortage of hand pickers.

There were about 1,200 mechanical harvesters in operation in the valley last year. Factory estimates of available new machines point to possible delivery of 1,800 additional pickers in time for the 1951 harvest, but industry representatives say the growers will be lucky if they get 1,500 more machines. Checks made by two agencies agreed on picking rates of 265 bales a machine for the season. If 1,500 new machines are delivered and each of the 2,700 machines in the valley this fall harvest 265 bales, their combined picking will total 715,000 bales, far short of the California crop forecasts for the year, which range from 1,500,000 to 2,000,000 bales.

Officials of the Agricultural Labor Bureau of the San Joaquin Valley predict a need for at least 100,000 hand pickers there, although they doubt that anywhere near that many will be available.



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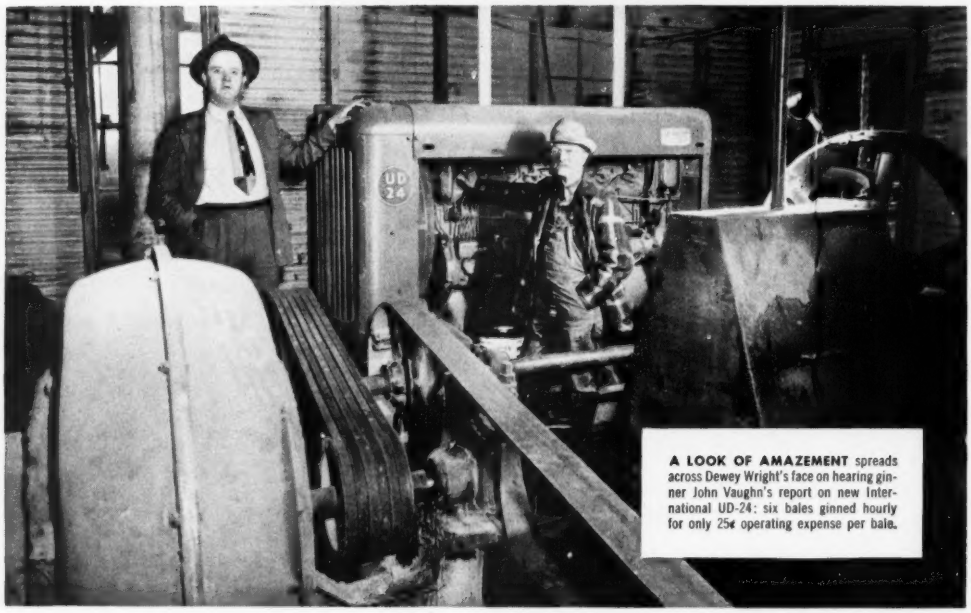

A LOOK OF AMAZEMENT spreads across Dewey Wright's face on hearing ginner John Vaughn's report on new International UD-24: six bales ginned hourly for only 25¢ operating expense per bale.

Dewey Wright (left), Florence, Alabama, makes his International UD-24 pay double dividends as power plant for cotton gin and sawmill

Dewey Wright was looking for a power unit capable of leading a double life when he bought his International UD-24.

"The deal worked out just fine," says Dewey, "for the UD-24 has more than enough power to pull all of the equipment in our 4-stand, 80-saw gin, yet it's light enough to move to our sawmill during the off season."

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INTERNATIONAL **POWER THAT PAYS**

U. S. Cotton Exports Are Heavy in April

Exports of cotton from the United States in April totaled 489,000 bales of 500 pounds gross (480,000 running bales), making a cumulative total of 3,551,000 bales (3,412,000 running bales) for the nine months August-April 1950-51. Only 94,000 of the 3,696,000 bales allocated for export in 1950-51 have not yet been licensed, according to a statement June 13 by the Office of International Trade, United States Department of Commerce. A large portion, possibly one-third, of this 94,000 bales is not expected to be taken up by the countries to which it was allocated, due to lower prices for new-crop cotton, exhaustion of ECA funds available for cotton purchases, or lack of free dollar exchange for immediate use.

Most of the cotton to be reclaimed for the above reasons was reallocated (30,000) bales to India on June 19 to meet urgent needs in that country, thus raising the 1950-51 allocation for India to 241,000 bales. Details of the reductions to be made in allocations previously made to other countries are not yet available. However, the changes will involve only the quantities for which various countries are unable to complete purchase and shipment before the end of July.

Total exports in 1950-51 (August-July) are still expected to exceed 4.2 million bales of 500 pounds and may reach 4.25 million depending on whether the heavy movement to Canada continues and on how completely the allocated cotton is taken up before July 31. Some excess of exports over allocations may result from the fact that licenses are issued for bales of 500 pounds net weight to facilitate and expedite bookkeeping procedures, while allocations are made on a 500-pound gross weight basis (480 pounds net weight). The excess will be offset in part, however, because many shipments made do not account for the entire amounts licensed for that particular shipment.

The initial allocation of 2.5 million bales for 1951-52 announced by the USDA on June 12 is to be licensed during the four months August-November but may be exported during whatever period is specified on the license. This allocation does not represent any particular portion of an expected total for 1951-52, which cannot be determined until more definite information is available regarding the 1951 crop and domestic requirements in 1951-52. Also, it does not mean that the initial allocation covers any specific period of time. As stated in the press release of June 12 it is simply a preliminary allocation to permit exporters and foreign mills to make their customary forward commitments.

USDA Proposes Revised Peanut Standards

Last week USDA announced a proposed revision of U.S. standards for shelled white Spanish peanuts, including in the U.S. No. 1 grade an additional tolerance for kernels which are damaged by spotted flesh but not otherwise damaged, and a re-wording of the definition of "damage" to permit the scoring of rancid and decayed kernels which cannot be detected by external examination. The tolerance for damaged and unshelled kernels has been increased slightly in both the U.S. No. 1 and U.S. No. 2 grades.

Present standards have been in effect since 1939. Proposed changes, which are intended to make these standards more equitable, have been approved by grades committees representing the industry associations in both the southeastern and southwestern producing areas.

Interested persons wishing to file views, data or arguments concerning the proposed revision of standards should submit them to the Fruit and Vegetable Branch, Production and Marketing Administration, U.S. Department of Agriculture, Washington 25, D. C., on or before Aug. 2.

New Publication:

IHC FOLDERS GIVE OPERATING FEATURES OF DIESEL ENGINES

Four two-page folders presenting operating and construction features of International diesel engines are being distributed by the International Harvester Co. These folders offer detailed information on reserve torque control, all-weather gasoline conversion starting, combustion control and long-life lubrication.

The titles and form numbers of these folders are: Long-Life Lubrication, CR-131-A; Combustion Control for Economical Power, CR-132-A; Fast All-Weather Starts, CR-130-A; and Pull Through Overloads, CR-133-A.

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Engineering in Agriculture —Today and Tomorrow

By ARTHUR W. TURNER

OUR HOPE FOR a progressive agriculture depends upon how well informed and instructed our farm families are in the application of the results of research.

Naturally, I am especially concerned with the application of agricultural engineering research results, because it is my job to administer engineering research for the Department of Agriculture. But more than that, I believe that engineering in agriculture must become the concern of all of us because today agricultural engineering has one of the most important roles to play of all of the agricultural sciences.

There is no phase of agriculture that I can think of that does not have engineering implications. That's why I'm especially concerned that folks in Extension, as you plan and organize your programs and procedures for the farm people of Michigan, do not fail to consider, in every case, the very important engineering phases of your program.

By all means, don't make the mistake of looking down on agricultural engineering because of its youth as an agricultural science. Agricultural engineering is a youngster all right—the first academic curriculum in agricultural engineering in this country dates back only 47 years. But its youth is its force—agricultural engineering is the strength of today's agriculture. Young, yes; but not to be disdained for its youth. Rather we should shed a tear that we didn t catch on sooner. As a matter of fact, the agricultural engineering graduate of today is in a mighty pleasant position. Industry and government (as well as the military services) are clamoring for his abilities, and there just isn't enough of him to go around.

• **Engineering Touches Every Phase of Agriculture**—Most farmers today think of farming in terms of commodities—apples, wheat and cattle. But you, as Extension Service workers, must think in terms of the fundamentals of successful farming—crops, livestock, farm management, family living and agricultural engineering.

Stop just a moment and think how agricultural engineering fits into every phase of successful farming—water and soil management to retain our producing soil; machines that are taking the work and worry out of farming; buildings and homes that are giving farm families and their livestock a better chance to a successful life; electric high lines that are providing energy for shortening chore time, increasing pleasure time and introducing new money-making techniques; methods and safety engineering that are cutting down on wasted steps and wasted time and keeping farmers on the job more days a year.

All of these are the tools of the agricultural engineer. These are the results of his study and thought. The farmer can continue to think of farming in terms of wheat yields and livestock gains, but you in Extension must think of farming in terms of engineering—as well as crops and livestock. The application of agricultural engineering to the farm, now more than ever, must be a basic consideration of yours in all your program planning and your day-to-day activities.

• **Agricultural Engineering Increases Production**—In the light of what I've said, let's consider for a moment how agricultural engineering affects our agriculture in the present world situation.

Certainly, we all know that whether this cold war is to drag on and on through the next several years, or whether it is at some time to boil over into a hot war that will embroil the entire world, it will nevertheless put a continuous load on our farm people to produce, and then produce even more. But from what? And how? Those are pertinent questions.

Farmers have been producing more from their land in the last 10 years than ever before—probably more than was ever dreamed possible 50, or even 25, years ago. Yet, for such an extended emergency period as this one we are now in, there seems to be no such thing as agricultural surpluses. This year, fewer farmers are being asked to produce more than ever before. How can it be done?

There are not many more acres to be planted, without seriously damaging our soil reserves. Can the weather be as perfect this year and in succeeding years as it has been during and since the war? Can fewer hands accomplish all the work that must be done without rapacious waste and misuse of the land? These are very real problems and our agricultural sciences are being pushed hard to find the answers. I believe they will.

Certainly, higher yielding crops and faster gaining livestock, the use of fertilizers and chemical weed killers, new and potent insecticides and fungicides, these are all helping to supply this greater production.

What I want to point out, though, is that each one of these approaches to greater production is dependent on agricultural engineering for its potential value. Better yielding crop varieties require machines that can properly prepare the best seed bed, that can precision plant at the most advantageous time, that can place fertilizer for top yields, that can spray and dust for insect and disease control, that can harvest, condition, store and transport the crop. Faster gaining livestock rely on better pasture management — with machines; higher quality feed, through better conditioning and storage of grain and forage; and improved housing in buildings designed around the needs of the animal. Getting many of these jobs done efficiently and on time with our limited supply of manpower depends on the application of engineered power and methods on the farm.

Stop and consider. Today there are one and a quarter million fewer farm people in the U.S. than there were 10 years ago. These remaining few—amounting to only 15.6 percent of our entire population—are being asked—and are expected—to produce five percent more food and fiber than has ever before been produced from American farms.

Engineered agriculture is helping supply the answer to this tough problem. Mechanization, power, structures and methods are expected to fill the gap. The number of horses and mules has been reduced 50 percent in the past 10 years, but the number of farm tractors has tripled. There are more than twice as

(Continued on Page 52)

■ **THE AUTHOR is director of Agricultural Engineering, Bureau of Plant Industry, Soils, and Agricultural Engineering, USDA, Washington, and delivered this interesting paper at the conference of Extension Service personnel of Michigan State College, East Lansing, May 23, 1951. The paper deals not with only one crop, but covers the entire field of agricultural engineering in the U.S. We consider it one of the most important treatments of the subject that has ever come to our attention and believe it is of special significance to our readers.—ED.**

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Dr. Tharp Predicts

More Defoliation of 1951 Cotton Crop

Wider use of defoliants — chemicals that induce mature cotton plants to shed their leaves and permit earlier harvest —is predicted for this year's crop by a USDA plant scientist who underscores the importance of early harvest in meeting the 1951 production goal of 16 million bales.

The scientist, Dr. W. H. Tharp, who coordinates federal-state agricultural research on defoliation, points out that defoliants are now available to meet the varied climatic conditions across the Cotton Belt. The practice, initiated about 10 years ago to insure a cleaner harvest with the mechanical picker, is being adopted over most of the area. It is used by farmers who produce only a few bales of hand-picked cotton as well as by operators on large holdings who rely on mechanical pickers to harvest their crop. About a million and a half acres were treated with defoliants in 1950.

The defoliants, which are chemicals such as calcium cyanamide, sodium chlorate with borate, or potassium cyanate, usually are sold under trade names. They usually are applied as a dust in the southeastern states or "dew" belt and as a spray in the drier cotton growing areas.

When properly defoliated, the cotton gives a higher percentage of clean lint. The treatment also aids in insect control at the end of the season. It causes boll weevils to leave the field when the leaves are gone, reduces weevil carryover and checks damage to lint by late aphids, earworms and other cotton pests.

Timing is the key factor in defoliation, says Dr. Tharp. Research shows a close relationship between the cotton plant's maturity and its response to chemical treatment. All cotton plants shed their leaves when the bolls mature. Application of the chemical speeds up the natural process. It does not, however, work on immature plants nor on those which have produced no bolls. The studies show further that anything which slows up maturity in the plant—weather, insect damage, or disease—will delay defoliation and prevent the treatment from being effective.

For best results, Dr. Tharp says, defoliants should not be applied until the last bolls expected to make cotton are at least 25 days old. Since cotton in any single field does not mature uniformly, the grower's major problem is to time the defoliation treatment to get the highest yields of good quality lint and seed.

Research shows that application of the defoliant before bolls are fully matured reduces the oil content and viability of the seed and impairs the spinning value of the fiber. This is most noticeable on the "top crop," the last bolls to mature. Bolls which develop earlier and lower on the plant are less affected. In many cases growers may have to sacrifice maturity of the top crop in order to save the valuable lower bolls from rotting.

Extensive research in progress across the Cotton Belt is expected to find answers to this problem of timing the application and other questions that are coming up as chemical defoliation is more widely adopted.

Agricultural Exports Reach High for Year

United States agricultural exports in April 1951, the tenth month of the fiscal year 1950-51, reached $420,039,000 in value, highest level of the current marketing year. During the same month last year agricultural exports were valued at only $228,332,000.

The country's exports of all commodities, agricultural as well as nonagricultural, were valued at $1,354,976,000 during the month under review against $793,160,000 in April 1950. Agricultural products constituted 31 percent of the total compared with 29 percent during April last year.

On a value basis, wheat and flour occupied the number one position as the nation's most important agricultural export during April, total shipments to foreign countries being valued at $121,238,000. This represented an increase of 137 percent over the $51,151,000 worth exported during April a year ago. Cotton was second, with exports valued at $117,540,000 compared with $78,169,000 a year ago, an increase of 50 percent.

On a quantitative basis, the outstanding features of the April 1951 agricultural exports, compared with April last year, were large increases in exports of lard, edible and inedible tallow, soybeans and soybean oil, among other products. On the other hand, large quantitative reductions are revealed in exports of shelled peanuts, soybean flour, and other items.

Agricultural imports during April were valued at $470,142,000 compared with the $262,847,000 worth imported in April last year, an increase of 79 percent. The country's April imports of all commodities, both agricultural and nonagricultural, were valued at $956,735,000 compared with $573,441,000 in April a year ago, an increase of 67 percent. Agricultural products constituted 49 percent of the April 1951 imports against 46 percent in April last year. As usual, the commodities heading the list and far in the lead of any other agricultural products were wool, coffee, rubber and sugar.

On a quantitative basis, the outstanding features revealed by the April 1951 imports, compared with those for the same month a year ago, were large increases in imports of copra, coconut oil and palm oil, among oilseed products. At the same time, however, the figures for the month under review reveal large quantitative reductions in imports of castor beans and tung oil.

On balance, U.S. imports of agricultural products during the month of April 1951 exceeded the value of agricultural exports by $50,103,000. During the same month last year, agricultural imports exceeded exports in value by $34,515,000.

Prices Received by Farmers Continue Slight Decline

Prices received by U.S. farmers declined again in May. They have declined each month for three months—since the record high reached in February. Declines have been slight to moderate. The May index was one percent below April and three percent below February.

Both crop and livestock prices averaged lower in May than in April. Main items lower were meat animals, strawberries, cotton, milk, wool and wheat. These declines were only partly offset by slightly higher prices for corn, butterfat, eggs and some truck and fruit crops.

Prices paid by farmers, including interest, taxes and wage rates, were off slightly in May for the first time in several months, but the parity ratio continued to decline because prices paid dropped less than prices received. The ratio was 108 in May compared with 109 in April and 113 in February.

Harper Simms Heads SCS Information Work

D. Harper Simms, formerly of Albuquerque, N. M., has reported to USDA in Washington to take over duties as chief of the Soil Conservation Service Information Division. Mr. Simms replaces Gordon K. Zimmerman, head of SCS information work for 10 years, who is leaving USDA on July 1 to take a public relations position with a commercial concern.

Mr. Simms has been with the Soil Conservation Service since 1936 and in information work for the agency in the Southwest Region since 1941.

Safflower Oil Is Exempt From Price Control

The Office of Price Stabilization has exempted safflower oil and seed from price control because of the small production and the trifling effect of the products on the cost of living. Only about 150 tankcars of safflower oil were produced from the 1950 crop.

OPS explained that the price of safflower oil, a drying oil, is controlled by the prices of linseed oil and soybean oil. Both these oils are under price ceilings and both are in good supply.

CCC to Sell Remaining Stocks of Upland Cotton

USDA has announced that CCC is offering for sale its remaining stocks of upland cotton. A catalog covering the remaining stocks, which total about 10,000 bales of 1948-crop cotton and 75,000 bales of 1949-crop cotton, has been mailed to all subscribers to the 1951 catalog service.

The sale will be handled for CCC by the New Orleans PMA Commodity Office, Wirth Building, 120 Marais Street, New Orleans 16, La. Questions pertaining to details of sale of cotton should be addressed to F. P. Biggs, director of the New Orleans office.

Carolinas Crushers Will Return to Virginia

Cottonseed crushers in North and South Carolina will return to the Cavalier Hotel in Virginia Beach, Va., setting for their 1951 joint annual convention, for another joint meeting June 8, 9, 10 and 11, 1952, officers of the two associations have announced.

The North Carolina Cottonseed Crushers Association will be host to the 1952 convention, as the South Carolina Cotton Seed Crushers' Association was in charge of this year's meeting.

Seedburo No. 14 Four-in-One, a small, complete office scale for weighing samples for moisture tests, determining test weights per bushel, dockages, and mailing matter. $41.50

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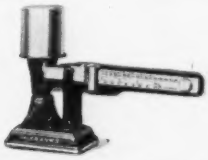

No. 103 Percentage Scale with cup. Ideal for rapid and easy determination of weight per bushel and dockage percentages. Includes 1 pint brass container. $23.00

Seedburo No. 127 Seed Scale for weighing small quantities of seed. Thoroughly accurate—yet inexpensive. $37.40

No. SE-1 Torsion Balance Scale. Recommended for very fine weighings. Capacity, 120 grams. Sensitivity, 2 milligrams. Price, without weights—$213.75

No. 498 Eureka O.K. Bagging Scale. Weighs as it fills. Will handle four to six 100-pound bags per minute. Easy to install at working height of bagging spout or hopper. $295.00

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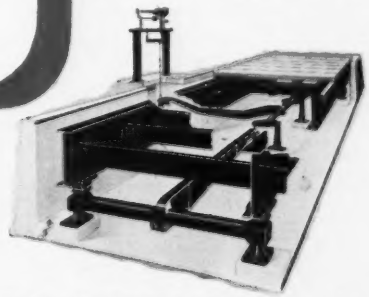


Seedburo Type "S" Truck Scale for motor trucks, trailers, tractor trailers, etc. Fifteen to 50-ton capacity.

1,000 Attend Meeting of

Tri-States Oil Mill Superintendents

■ **Association advances M. P. Letchworth to presidency, elects O. D. Easley vice-president and reelects L. E. Roberts and Jane Inez Gordon.**

More than 1,000 oil mill superintendents, their wives and others interested in the industry registered for the twenty-sixth annual convention of the Tri-States Oil Mill Superintendents Association at Atlanta, Ga., June 20, 21 and 22. Some 500 of those attending were from the tri-states of Mississippi, Arkansas and Tennessee.

M. P. Letchworth, Leland, Miss., was elevated to the presidency of the association, succeeding N. Hunt Moore, Wilson, Ark. O. D. Easly, Memphis, Tenn., was elected vice-president. L. E. Roberts, Memphis, was renamed secretary-treasurer and Jane Inez Gordon, Memphis, was continued as corresponding secretary.

• **Speeches Cover Many Topics**—A wide range of subjects were covered by speakers during the three morning business sessions at the Hotel Biltmore. On the first day Ernest D. Key, president, Atlanta Belting Co., Atlanta, Ga., spoke on the topic, "Can We Handle Our Labor Relations Without Outside Assistance," and John W. Dunning, director of research, The V. D. Anderson Co., Cleveland, Ohio, discussed "Solvent Extraction," comparing and contrasting the "direct extraction" and prepress, or Exsolex, methods, especially with regard to processing cottonseed.

A full color sound motion picture, "Soybeans—the Feature Story," was presented by the National Soybean Crop Improvement Council, Decatur, Ind. The movie tells, through a reporter assigned to do a feature story on soybeans, the history of that oilseed, how new varieties are bred, best cultural practices, harvesting and marketing methods, processing methods, soybean products, uses and research.

President Moore delivered his annual address at the opening session. E. S. Lyle, Dyersburg, Tenn., acted as moderator at a question-and-answer session at the end of each morning's program.

"Yours to Command" was the title of another movie shown by Russell Maas, president, Screw Conveyor Corp., Hammond, Ind., at the beginning of the second day's session.

Speaking on "Proper Methods of Sampling and What It Means to Us," Dan C. Henry, Law & Co., Atlanta, pointed out that the cottonseed industry is dependent upon the laboratory for measurements of the quality of the raw materials which it buys, prospective yields from those raw materials and day-to-day measurements of mill operations. He advised the oilseed processors to use multiple samples rather than to depend on single samples of their products.

Cost comparisons and analyses of performance of both wool and nylon press cloth were given by O. D. Easley, superintendent, Southern Cotton Oil Co., Memphis, in his discussion of "Wool Press Cloth Versus Nylon Press Cloth."

"Four Years of Solvent Extraction" were described by Joe Brady, manager, Helena Cotton Oil Mill, Helena, Ark., who told of the problems which he and other pioneers in the field of solvent extraction had faced when they began to use this method of processing cottonseed.

M. P. Letchworth, superintendent, Leland Oil Works, Leland, Miss., discussed "Plant Cleanliness and Its Value."

Two addresses were given at the final business session June 22, when J. L. Tennent, superintendent, Refuge Cotton Oil Co., Columbus, Miss., spoke on "More Lint and Better Lint and Its Effect on Separation," and W. E. Leverett, general superintendent, Ashburn Peanut Co., Ashburn, Ga., discussed "Processing Peanuts."

Following the report of Secretary-Treasurer Roberts and election of officers, the incoming president appointed committees to direct the association's work during the ensuing year. It was decided that the 1952 convention will be held at Biloxi, Miss., with C. C. Castillow, Greenville, Miss., again acting as convention chairman.

Regional meetings will be held at Pine Bluff, Ark., Dec. 1, with Ralph Huneycutt as chairman; Memphis, Feb. 2, 1952, with E. S. Lyle as chairman; and Greenville, Miss., sometime in April, 1952, with Mr. Castillow as chairman.

• **State Vice-Presidents** — State vice-presidents of the Tri-States association, which now takes in all of the Cotton Belt except that part west of Texas, are: Alabama—W. C. Hendrix, Birmingham; Arkansas—J. B. Jones, Little Rock; Florida—C. E. Dutton, Pensacola; Georgia—J. F. Doughman, Macon; Louisiana—Ernest Perrult, New Orleans; Mississippi—Woodson Campbell, Hollandale; Missouri—Jimmy Jones, Kennett; North Carolina—B. G. Stowe, Goldsboro; Oklahoma—M. C. Dimphl, Chickasha; South Carolina—R. T. Herring, Ninety-Six; Tennessee—Tom Hutchison, Tiptonville; and Texas—Cecil Wamble, College Station.

Directors of the association are C. W. Hoover, Victoria, Ark., chairman; L. E. Roberts, Memphis; N. L. Pugh, Jr., Newport, Ark.; B. C. Lundy, Greenville, Miss.; E. S. Lyle, Dyersburg, Tenn.; N. Hunt Moore, Wilson, Ark.; and M. P. Letchworth, Leland, Miss.

State program chairmen include E. S. Lyle, Dyersburg, for Tennessee; Ralph Huneycutt, Pine Bluff, for Arkansas; C. C. Castillow, Greenville, for Mississippi; W. C. Hendrix, Birmingham, Ala., for Alabama and Georgia; and B. G. Stowe, Goldsboro, N. C., for North and South Carolina.

The research committee includes E. H. Tenent, Memphis, chairman; J. R. Mays, Memphis; and L. L. Ford, Enterprise, Ala.

• **Entertainment** — A barbecue luncheon was given at the Master Grill in North Fulton Park on the opening day of the convention, June 20. On the second day ladies attending had luncheon at Hart's Peachtree and toured the city, while the superintendents had luncheon at the Athletic Club and visited Link-Belt Co.'s plant in Atlanta. The annual banquet and dance was held that night in the Ballroom of the headquarters hotel.

Spotted Grades Decline In New Mexico Cotton

The 33,328 bales of spotted cotton which New Mexico farmers produced in 1950 cost them almost three-quarters of a million dollars, Marshall Thompson, cotton marketing specialist with the New Mexico Extension Service, has reported. Using Middling one and 3/32-inch cotton as the average, Thompson estimated that the lowering of grade from white to spotted meant a loss of $22 a bale last year, or a total of $733,-216.

"This 1950 loss was a great one," Mr. Thompson explained, "but it was an improvement over 1949, when two million dollars were lost because of spotted grades. Even though 1949 production was almost double that of 1950, spotted cotton cost the farmer an average of $6.20 per bale in 1949 for the 310,000 bales produced, compared to $3.92 per bale for 187,000 bales produced in 1950. Expressed in percentage of total crop, 31 percent was spotted in 1949, compared to 18 percent in 1950.

According to the cotton marketing specialist, the chief causes of spotted cotton in New Mexico have been bacterial blight (angular leaf spot), insect damage, early freezes and hailstorms. Other causes which contribute to spottiness of cotton are deterioration in the field, careless picking and handling, and other diseases.

Further improvement of the spottiness in cotton can be achieved, Mr. Thompson said, if farmers will concentrate on these things:

1. Keep the fields picked clean before the first frost.

2. Never mix cotton picked before the first frost with that picked afterward.

3. Follow recommended insect and disease control measures.

4. Train pickers to pick the bolls clean.

Mr. Thompson pointed out that losses caused by spottiness range from $22 a bale for one and 3/32-inch Middling cotton to $101.75 a bale for one and ¼-inch Middling cotton. Therefore, he explained, the farmer who produces extra premium length cotton should take every precaution to reduce spottiness.

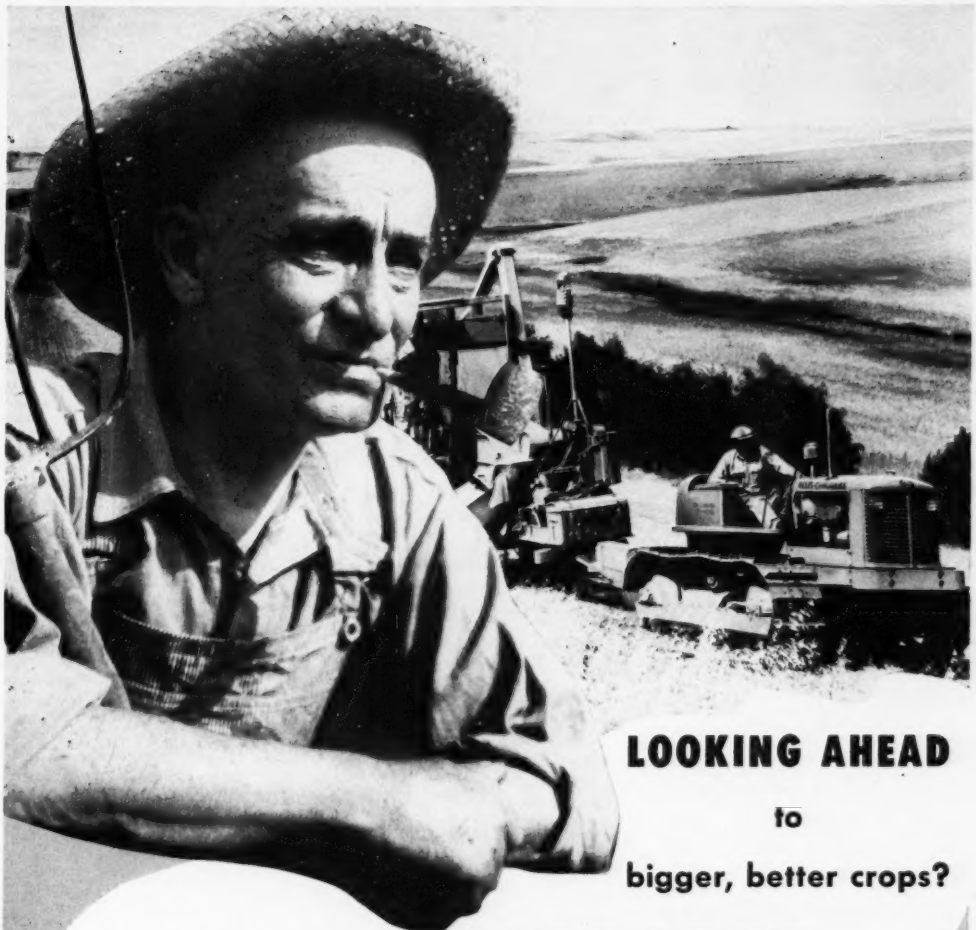
Bob Burgher Is Back In Hospital

Robert Burgher, well known southwest representative for Riverside Mills, Augusta, Ga., and the Sumner Company, Columbia, S. C., is back in the hospital in Dallas, Texas.

Mr. Burgher was confined to the hospital in April with a blood stream infection, which kept him in bed for more than a month. He had been up and around only a short while when he was sent back to Baylor Hospital in Dallas with an attack of ptomaine poisoning. His doctors tell him that he is doing very well now, and should be back on his feet in a relatively short time.

Tornado Destroys Key Gin

A small tornado destroyed the Key Gin at Key, Texas, near Lamesa, late in the afternoon of July 3. No one was injured in the storm, which damaged a number of other buildings.



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By FRED BAILEY
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Washington Representatives
The Cotton Gin and Oil Mill Press

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• **Congressional "Revolt" Means Fewer Controls**—Political as well as economic significance is attached to the "revolt" of Congress against strong price and wage controls. It is being widely interpreted here as a "no confidence" vote in the administration program of direct approach to price problems. Republicans gleefully proclaim that, and some Democrats admit it.

The Senate rebuke to the administration was a severe blow to those who believed they were at last on the way to getting a firm federal grip on the economic machinery of the nation. It was a warning that Congress intends to call the shots.

Administration leaders are attempting to salvage what they can of their waning powers in the House, where administration influence normally is greater than in the Senate. But, very probably, the President has lost his battle for stronger control powers, at least for the immediate future.

Rollback hopes are little more than a painful memory. The ceiling "freeze" for 31 days in the temporary extension of the Defense Production Act, accepted by both houses and the President, just about tosses that one out of the window. The final version likely will bar ceilings below parity or the price prevailing the day prior to the ceiling.

The parity freeze and subsidy administration pets have only an outside chance in the House. Both have endorsement of the House Banking Committee, but observers' odds will be against them when the chips are down in the House. In the end, controllers will have less authority to monkey with prices.

• **"Deflation" Makes OPS Unhappy** — The sour note of "deflation" is beginning to creep into the official administration theme song of "Inflation, Oh Terrible Inflation." The failure of prices to act "normally" since January is beginning to trouble the inflation choir.

In January Price Stabilizer Mike DiSalle dolefully told a Press Club audience that if he could just keep prices down to a 10 percent rise until he could get controls working in June he would be the happiest man in Washington. Instead, prices went down five percent and he probably is the unhappiest man in town.

Government economists have attempted to cover up for DiSalle by insisting that inflation has only been delayed, that it is sure by fall, or maybe by winter, possibly not until next spring. Now they are telling DiSalle privately that unless something happens soon to boost prices they may have to change their tune.

The Council of Economic Advisers, top government economic agency, recently told the President in an unpublished report that we might or might not have inflation, but that if he relied on direct price controls to stop inflation he was slightly off his nut. A few who saw the report are not surprised that it has not been made public.

• **Too Much Cotton Again?**—Some Agriculture Department officials are beginning to fear that a cotton crop of 16 to 17 million bales might not be an unmixed blessing. It always is too much or too little, never just right, one official wailed.

Not reassuring to harried officials are these developments:

1. World cotton production from the 1951-52 crop now is estimated by the International Cotton Advisory Committee at at least 35 million bales, some three million bales over probable world consumption.

2. Continued shortage of American dollars is shifting demand for exports to other countries.

3. Importing nations which have been stockpiling in fear of a global war may decide to retrench if peace prospects are good.

4. Cotton consumption at home and abroad has declined some from last spring, although still relatively high.

"Don't misunderstand me," one USDA official said. "We are glad to have a big cotton crop after what happened in 1950. But it could, just barely could, present some problems."

It isn't being advertised, but officials already are beginning to give some thought to the possibility of supports. One question causing some worry is the level at which supports, if necessary, would be offered. At 90 percent of parity, now provided in the law, that would be around 30 to 31 cents per pound.

Some think that might be a bit low for farmers who planted in expectation of 40 cents a pound or more. So they are talking of asking Congress, in the event supports are needed, to raise the ante to parity, about 34 cents. This talk hasn't gotten beyond the bull session stage as yet.

• **Labor Bill Doesn't End Shortage**—An unhappy and unwilling Labor Department now has the job of getting enough Mexicans across the border to meet as much of the farm labor need as possible. Congress, in an eleventh hour vote, okayed a bill to make effective an earlier agreement with the government of Mexico.

The department's Employment Service frankly says there is no use in farmers kidding themselves; the Mexican deal is not going to be much more than a drop in the bucket toward solving the labor shortage. Their estimates range from 75,000 to 125,000, against needs for two or three times that number.

Under the new program, the U.S. government will set up recruiting centers at designated points in the interior of Mexico to "process" applicants for farm employment. Those accepted will be transported to reception centers on this side of the border. Employers will pick up the workers at the border and pay transportation, including return to the border.

Farm supporters of the measure had a scare when the Senate tacked on the Douglas Amendment to make employment of wet-backs a felony. The House knocked it out, conferees agreed with the House and the Senate concurred. It was much easier than expected.

• **U.S. Helps Mexico Grow More Cotton** —While we worry on this side of the border about getting Mexican pickers for our cotton, the Agriculture Department is sending one of its experts to Mexico to help boost production south of the border.

P. K. Norris of the Office of Foreign Agricultural Relations has been assigned to work with the Mexican government, cotton producers, cotton trade members and others on problems relating to production and marketing.

Included in his portfolio of assistance to Mexican cotton is advise on the influence of expanding cotton acreage on the world cotton supply and techniques used in cotton processing. Mexican production is expanding. The 1949 crop was 973,000 bales. In 1950 this jumped to 1,120,000 bales and is expected to exceed 1,250,000 bales this year.

• **Use More Defoliants, Says USDA**—Agriculture Department experts are recommending increased use of defoliant chemicals this year to induce mature cotton plants to shed their leaves and permit earlier harvest. Last year about 500,000 acres were treated with defoliants.

Dr. W. H. Tharp, coordinator of federal-state agricultural research on defoliation, says defoliation has the double advantage of a higher percentage of clean lint and reducing weevil carryover.

For best results, he says, defoliants should not be applied until the last bolls expected to make cotton are at least 25 days old. Defoliants applied before bolls are fully matured reduce the oil content and viability of the seed and impair the spinning value of the fiber.

• **Southern Lab Improves Loom** — The Southern Regional Research Laboratory at New Orleans has developed an inexpensive loom attachment for weaving extra light, naturally waterproof cotton fabrics. It is said also to be valuable in weaving conventional fabrics, especially hard-to-weave fabrics like high-thread-count print cloth.

New Catalog:

PUBLISHERS ISSUE INDEX TO SCIENTIFIC PUBLICATIONS

A 1951 catalog containing complete listings and descriptive data of current scientific publications has been released by Interscience Publishers.

The catalog is designed as a reference source for important books and periodicals in science and technology. It is broken down into sections on new publications; chemistry, by types; physics; mathematics; metallurgy and engineering; general science; and an encyclopedia of chemical technology. A subject index is included.

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Key Agricultural Problem:

Getting More Productive Use Of U. S. Farm Manpower*

By KENNETH L. BACHMAN
Bureau of Agricultural Economics
U.S. Department of Agriculture

GETTING THE most productive use of the manpower in agriculture is one of the key problems facing the U.S. during the emergency period. The farm labor force is shrinking as workers leave the farm to take jobs in the city or enter the armed services. At the same time, the nation is faced with the need for record production of food and fiber.

The need for more efficient use of manpower in agriculture is not a new problem. It faced us during much of the last decade when the record war and postwar requirements for farm products had to be met with a reduced farm working force. Farmers met this situation in boosting total production 24 percent from 1940 to 1950. Production per worker jumped even more, rising 31 percent during the decade.

Despite the over-all gain in the productivity of farm labor, many of our farms, particularly the smaller ones, have lagged far behind. Considerable numbers of these farms are found in all sections of the country but they are more numerous in the "poor soil" areas where physical conditions have retarded improvements in farm production. They are a particularly large proportion of the total number of farms in most of the eastern Cotton Belt, in the Appalachian and Ozark areas, the hilly areas of Oklahoma and Texas and the northern parts of the Lake States.

• **Not Just Labor Problem**—The changes necessary to increase the productivity of farm workers are considerably different than those usually made in industry, since about four-fifths of those employed in agriculture are farm operators and members of their families. Increased productive employment of farmers generally does not mean merely working more hours a day or changing to another job that will use talents more fully. The farmer not only is a worker but also a manager and a businessman. Getting more productive employment on the farm usually involves problems of management, finance and tenure. When migration of off-farm employment opportunities occurs the changes in job are clear cut but here a major change in occupation is usually involved.

Family labor makes up an even larger proportion of the working force on small farms where production per man is most likely to be relatively low. Of the approximately 5¾ million farms in 1945, nearly one million were classified as small-scale units having a value of farm production in 1944 of from $500 to $1,200, and with little or no work off the farm by the operator. Workers on the small-scale farming units were only one-fourth as productive as workers on medium-sized commercial-family farms in terms of gross production per worker (see table).

• **Half as Productive** — Approximately 1½ million farms, with a value of production of from $1,200-$2,499, were classified as small commercial-family farms. Workers on these farms, on the average, were only 50 percent as productive as workers on medium-sized commercial-family farms in terms of production per worker.

In addition, there were approximately 1½ million small part-time residential units reported in the 1945 Census of Agriculture. Many of these families are counted in the farm-labor force. Farm production per worker in these farms indicates little about their productivity since most of their income came from other sources. Incomes from off-farm

*Reprinted from The Agricultural Situation, monthly publication of USDA's Bureau of Agricultural Economics, for June 1951.

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sources for the U.S. averaged about $1,500 in 1946, according to a study of a sample of similar farms from a nationwide survey made by the BAE. On most of these farms, the operator or family members worked regularly off the farm. Others were retirement units. The level of productive employment of these families as indicated by incomes would appear to be generally satisfactory, but there was considerable variation in the amount of employment and incomes reported.

Numbers of part-time and residential farms are greatly affected by how farms are defined. The 1950 census will probably count fewer of them as farms because of a change in the definition of a farm.

• **Crux of the Problem**—Small-scale, and to a lesser extent small family farms, are the crux of the problem of ineffective use of manpower in agriculture. Mechanization and other technological developments have largely bypassed these farms. This is indicated not only by the low amounts of capital and the few kinds of farm equipment found on these farms, but also by the characteristics of the areas in which they are concentrated.

How Three Economic Classes of Farms Compare*

Item	Small scale	Small commercial family	Medium commercial family
Number of farms (thousands)	924	1,662	1,173
Proportion of all farms (percent)	16	28	20
Gross value of products per worker (dollars)	635	1,249	2,588
Index of gross value of product per worker (medium commercial farms equal 100)	25	48	100

*Data from Technical Bulletin 1019, "Sizes of Farms in the U.S." K. L. Bachman and R. W. Jones. Small-scale farms include farms having a value of products $500 to $1,200 with less than 100 days work off the farm by the operator. Small commercial family farms, $1,200 to $2,999. Medium commercial family farms, $3,000 to $7,999, with some additional adjustments in the various classes. Data from 1945 census.

Difficulties in mechanizing cotton, tobacco and other crops grown have prevented farm enlargement and development in some of these areas. In other areas, a large farming population and limited opportunities for off-farm work frequently have retarded the making of desirable adjustments and the adoption of improved methods of farming. When the changes in mechanization came before the areas were completely settled or stabilized, changes in size of farm were made more easily. This happened in some parts of the Great Plains, for example.

Production per acre and per unit of livestock is higher on the larger farms than on the small farms. Improvements in agricultural practices in the past frequently have benefited the farmers on the good land more than those who have some physical disadvantages, such as rough topography or only small acreages of cultivatable soils. In addition, the larger capital accumulations and incomes have often provided the operators who have farms above average in size with better opportunities for adopting improvements in production methods. The use of improved varieties and cultural methods are often reflected in higher yields.

• **Big Gain Possible**—The importance of the problem of improving productivity levels among farm operator families on low production farms has been emphasized by a recent staff report to the joint congressional committee on the economic report entitled "Underemployment of Rural Families." On the basis of available evidence, this report estimates that full employment of workers on small-scale, small commercial and part-time farms, at average rates of production could add the equivalent of 1,600,000 workers to our total working force.

No one solution to the problem of getting more productive employment on small farms fits all cases. More intensive systems of farming may be the answer on some farms. Enlargement of the farm will be the best solution in other cases. Seasonal labor on other farms in the area and on farms in other areas may provide a means of increasing productive employment in some situations. Some farmers might do best by turning their place into a part-time farm or a residential unit and accepting regular off-farm employment either in the city or on other farms in the area. Others may find their best alternative is to quit farming and get a job in industry.

Recent technological developments have in many situations widened the opportunities for efficient intensive systems or relatively small acreages. Small-scale farmers whose best opportunities lie in agriculture should be encouraged to start the process of development and enlargement of their farms. In some situations substantial increases in production can be made by changes in farming systems and investment in capital improvements on their present farms.

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gram of enlargement as well as development is desirable in most cases. Production on small farms, even though increased, often will not fully utilize available labor and modern equipment and machinery. Enlarging these farms would mean that some other people now living on such farms would move to the city.

Adjustments are often easier for operators of small farms located near urban centers than for those farther away. The operators can more easily find off-farm employment. Those wishing to leave the farm often can sell to those who wish to live in the open country and work in the city. When the farms are located a considerable distance from cities or towns, the opportunities for off-farm work by the operators are fewer and purchases for residential uses are less common.

To increase the productivity of farm families on these small farms often requires complex changes in the system of farming, techniques of production and size of farm rather than a simple substitution of capital for labor. To substantially increase productivity on many small farms in the South, for example, would involve a shift toward a livestock system of farming, new kinds and varieties of feed crops, new fertilization and cropping practices as well as mechanization of farm operations and increase in the size of the farm.

• In addition to being heavier and having more finish, creep-fed calves grow out more uniformly in size and conditions. There is little shrinkage at weaning time.

USDA Publishes 1950-51 Agriculture Yearbook

The U.S. Department of Agriculture has announced publication of the 1950-51 Yearbook of Agriculture, a 968-page volume entitled *Crops in Peace and War* and devoted to the uses of major farm products.

The new yearbook deals with the processing of all major American farm products, their industrial and food uses, byproducts from them, utilization of wastes and secondary materials, procedures involved in finding new uses, and requirements of consumers and markets. It is intended primarily to inform farmers about the handling of their products, but it should also be of value to many city people.

The book is largely a report of the work of the department's four regional research laboratories whose establishment Congress authorized in 1938 to study the possibilities of using surplus products in new ways.

Included in the yearbook are 145 articles by 195 contributors, an eight-page section of drawings, and many short items giving sidelights of the utilization research.

New treatments and tests for cotton fibers and fabrics are described in the chapter on that crop. Production of cotton, problems of machine picking and handling of a bale of cotton after it leaves the farm are included. In the succeeding chapter are articles on other fibers, including flax, long vegetable fibers and the new textile fibers from corn and peanuts. One article describes tests used to determine launderability, waterproofness, resistance to wear, and other characteristics of textiles.

The chapter "Oilseeds, Oils, and Fats" discusses storage, processing and uses of animal fats and oils, seed flax, cottonseed, soybeans, tung and minor oil crops. Other chapters deal with uses of proteins of corn, peanuts, soybeans and cottonseed.

The last chapter, "Waste Not, Want Not," discusses the uses of residues (straws, stalks, cobs, stems, hulls, nutshells, fruit pits and bagasse), byproducts, vegetable residues and wastes that can be used for fertilizer.

Crops in Peace and War was originally intended to be issued in 1950, but a second edition of *Grass*, the 1948 yearbook, was requested by Congress to take the place of a new volume in 1950. Consequently the book is dated 1950-51.

Maid of Cotton Entrant To Be Selected Aug. 10

The Missouri-Illinois unit of the National Cotton Council will sponsor a Maid of Cotton contest in Hayti, Mo., Friday evening, Aug. 10, to select that region's entrant in the national contest to be held in Memphis, Tenn., Jan. 3, 1952, in which the Maid of Cotton for 1952 will be picked.

Winner of the Missouri-Illinois contest will automatically appear as one of the finalists in the national contest since the local event will have the official sanction of the National Cotton Council.

The contest will be held in connection with an annual stage show given by the Hayti Lions Club in the local high school auditorium.

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Australia Reports

Sharp Increase in Flaxseed Outturn

Production of the major oilseeds in Australia in 1950-51 increased about 13 percent compared with 1949-50. The expansion was due almost entirely to a 30 percent increase in flaxseed, although cottonseed production, which is relatively unimportant, more than doubled.

For the first time, flaxseed production was greater than peanut production, accounting for 45 percent of the total tonnage of the four major oilseeds against 41 percent for peanuts. Sunflower seed accounted for 10 percent and cottonseed for four percent.

• **Flaxseed**—Almost 350,000 bushels of flaxseed were harvested from 57,540 acres in 1950-51. Whereas production increased by about one-third from the previous season, acreage practically doubled. The most spectacular gain occurred in Queensland, where the acreage more than doubled and yields were approximately normal, resulting in a record production —twice as large as in 1949-50.

Australia's crushing capacity is far from being fully utilized, although it would not be adequate were sufficient flaxseed grown to fulfill the need for drying oils and linseed oil meal. The largest crushers in Australia opened a new mill at Northgate in Queensland during the 1949-50 crushing year, using equipment moved from their New South Wales plant. Unofficial estimates place linseed oil, and cake and meal production in 1949-50 at 9,900 and 16,800 tons, respectively, representing a small increase from the previous season. Exports of flaxseed, linseed oil and linseed meal have been negligible in recent years.

Imports of flaxseed during the fiscal year 1949-50, amounting to 777,262 bushels, were about six percent larger than during the previous year. Virtually all of this quantity came from India. Linseed oil imports of 6,796 tons were about 27 percent smaller than in 1948-49. India supplied roughly three-fourths and Uruguay about one-fourth. Compared with 1945-46 and earlier years, imports of linseed oil have replaced a major portion of flaxseed imports.

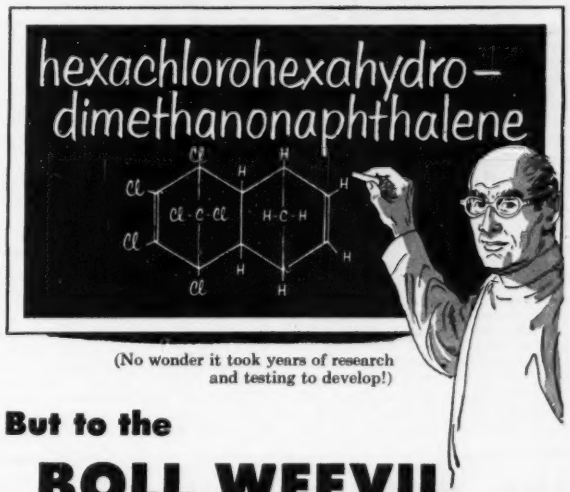
• **Peanuts** — Australian peanut production during 1950-51 is estimated at 8,800 tons, about 100 tons less than the previous year's output but considerably less than the 1942-47 average of almost 14,000 tons. Although Queensland accounts for almost 97 percent of Australia's peanuts, production there is static or falling off while production in New South Wales, where virtually the entire crop is used for edible purposes, is increasing rapidly.

Volume of peanut oil produced in Australia is dependent upon availability of peanuts and not upon demand for peanut oil and peanut oil meal. There is a large unfilled demand for vegetable proteins for livestock feed, and imports of peanut oil more than quadrupled during 1949-50. However, with both margarine and meat prices controlled, oil and meal prices are not sufficiently attractive to stimulate additional production. Oil production during the calendar year 1950 amounted to only about 500 tons, less than half the volume officially reported for the fiscal year 1947-48 (latest official data available).

No peanuts were exported during 1949-

To a chemist

aldrin is



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Powerful aldrin is the latest weapon in the planter's war against insects. *Just one pound* of aldrin, properly diluted, controls boll weevils, thrips, tarnished plant bugs, rapid plant bugs, cotton fleahoppers and grasshoppers *on 2 to 4 acres* of maturing cotton.

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Aldrin is available under the brand names of leading insecticide manufacturers. Consult your local dealer and county agent.

50 and peanut oil shipments amounted to only 29 tons. Imports of nuts and oil amounted to 303 and 397 tons, respectively.

• **Sunflower Seed**—The rapid increase in acreage and production of sunflower seed which occurred during the late war and early postwar years appears to have been checked by greater profits from such competing enterprises as wool production and wheat growing. Acreage harvested in the major producing state of Queensland actually decreased about eight percent from 1949-50 to 1950-51, and the crop seems destined, at least for the next few years, to remain a very minor one in Victoria and New South Wales. Total Australian production in 1950-51 is estimated at around 2,200 tons—about the same as the previous year. Sunflower seed oil production during the calendar year 1950 amounted to about 240 tons.

Exports of sunflower seed during 1949-50 amounted to only 39 tons; imports have been negligible since 1946-47. There were neither exports nor imports of sunflower oil in 1949-50.

• **Cottonseed**—Production of cottonseed more than doubled in 1950-51, aggregating 875 tons compared with 348 tons the previous year. This was the result of acreage increase. Cottonseed oil production during the calendar year 1950 amounted to only 34 tons. There was no Australian trade in either cottonseed or cottonseed oil during 1949-50.

Small quantities of several other vegetable oilseeds and oils are produced in Australia. These include olive oil, soybeans and oil, and tung nuts and oil. Large quantities of copra are imported into Australia, principally from the territories of New Guinea and Papua. Imports of castor and rapeseed oil in 1949-50 were reported at 477 and 536 tons, respectively.

Fertilizer Advisory Group Seeks Regional Meetings

The Fertilizer Industry Advisory Committee was told in a meeting with USDA officials that USDA has no thought of allocating fertilizer at this time.

The committee also was told by USDA officials that an increase in productive capacity of 500,000 tons of nitrogen—40 percent more than present capacity—is needed in the immediate future. Because of food demands of this nation's increasing population, an additional 100,000 tons production will be needed each following year.

As a means of conserving phosphates in light of the present sulfur shortage, the committee suggested that regional meetings of state agricultural officials, experiment stations, state and federal fertilizer specialists and the industry be encouraged in order to consider possible changes in fertilizer formulas to stretch available phosphate supplies. USDA officials agreed that this local cooperative approach to the problem would be better than any federal action to control formulas at this time.

Peanut Supply at End Of May Is Large

The U.S. supply of peanuts, farmers' sock equivalent, held in commercial positions on May 31 totaled 512.5 million pounds. This compares with 330.7 million pounds on this date last year and is the largest holding at the end of May for any year since 1946.

Holding of farmers' stock peanuts, reported at 295.5 million pounds, is considerably larger than stocks of 139.5 million pounds on May 31, 1950.

Milling of farmers' stock peanuts during this season through May 31, reported at 1,444.2 million pounds, is slightly less than the 1,462.7 million pounds milled to this date last year. This is less than the amount milled to May 31 for any season since May 1942. Although the bulk of this year's crop has gone through shelling plants, crushing of farmers' stock peanuts, reported at about 50 million pounds, during the current season is considerably more than the 28 million pounds crushed during the entire 1949-50 season.

The total quantity of shelled edible peanuts reported used during the period Sept. 1, 1950 through May 31, 1951 amounted to 404 million pounds, about five percent more than were reported used to this date last year. Larger quantities are reported used as salted peanuts and for making peanut butter while a smaller quantity was used in candy.

OVER HALF A CENTURY—THE VERY BEST

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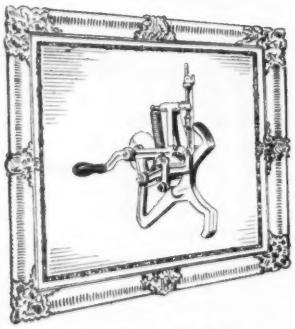

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5-Head Rotary Gummer
"The Quint"
Duplex
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Although driven from one motor, the five heads automatically adjust themselves to any slight variation in saw diameter or irregular alignment of teeth lengthwise of the cylinder. The "Quint", No. 55, is unconditionally guaranteed. Weight 248 lbs

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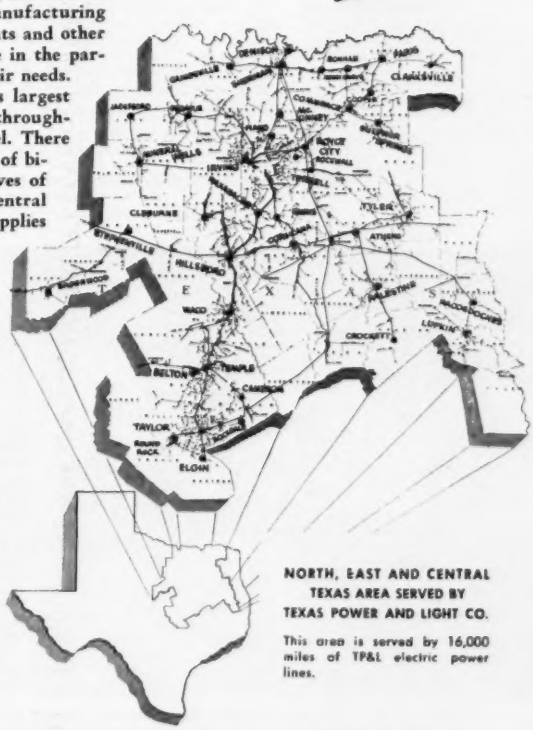

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At Ruidoso Meeting:

New Mexico Ginners Reelect Officers

■ Specialists report on research in ginning and plant diseases, insect control, use of fertilizer, cotton classing and industry organizations.

All officers of the New Mexico Cotton Ginners Association were reelected at its second annual convention June 18-19 in Ruidoso, N. M., and ginners of that state decided to hold their 1952 meeting at the same place, with the dates to be selected later. Navajo Lodge was headquarters for the convention.

Winston Lovelace, Loving, is president of the association, with J. B. Greer, La Union, vice-president, and Mrs. Flora R. Lawrence, Loving, secretary-treasurer.

• **First-Day Speakers Discuss Ginning and Classing**—Three USDA specialists discussed their work at the opening business session. Research in ginning problems and the relationship of ginning methods to cotton fiber quality, with respect to the types of cotton raised in New Mexico under irrigation, were discussed by Victor L. Stedronsky, engineer in charge at the U.S. Cotton Ginning Laboratory, Mesilla Park, N. M., and William H. Fortenberry, fiber specialist at the U.S. Cotton Fiber Laboratory at Mesilla Park.

Stanley C. Rademaker, in charge, U.S. Cotton Classing Office, El Paso, Texas, outlined the problems classers meet in their work. He emphasized the thoroughness with which classers try to process cotton.

• **Plant Diseases and Cotton Breeding Are Discussed**—Speaking on the second day of the convention, Dr. Lester M. Blank, pathologist at New Mexico A. & M. College, State College, told the ginners of the work being done at the college to combat Verticillium wilt and angular leaf spot, or bacterial blight, in cotton. He said that researchers are making progress in breeding a cotton which will be resistant to angular leaf spot. So far, only certain cultural practices have been found to be of any effect in combating Verticillium wilt.

Dr. G. N. Stroman, agronomist at the New Mexico Experiment Station, State College, told of the station's research in cotton breeding. Work of the New Mexico Crop Improvement Association was discussed by the association secretary.

• **Fertilizer, Insect Control and Cotton Council Are Topics** — Proper usage of commercial fertilizer in the western area of the U.S. and how to get the most productivity out of land were discussed in non-technical language by Dr. A. M. Smith, agronomist, Mathieson Chemical Corp.

Workings of the National Cotton Council, especially in regard to research in cotton utilization and promotion campaigns to increase consumption of cotton, were described by Clifton Kirkpatrick, director of field service of that organization, Memphis, Tenn.

Dr. John R. Eyer, biologist and entomologist, New Mexico Experiment Station, State College, discussed cotton insect control, describing the various insects that inhabit cotton in New Mexico and giving recommendations for their control.

• **Ginners Ask for Mexican Labor**—The New Mexico Cotton Ginners Association went on record with a request to its congressmen for support of farm labor bills which would provide Mexican nationals to help in harvesting what the ginners expect to be a bumper cotton crop. The crop can be produced without too much Mexican labor, it was felt, but if additional labor is not available for harvesting, ginning will be slow and the season will be long drawn out, making it unprofitable to both farmers and ginners.

• **Directors**—Directors of the association were elected at the first day's business session and met immediately after the day's adjournment to set dues for the coming year. They are: Billy Griffin, Deming; Leon Rice, Lovington; L. C. Thomas, Portales; J. P. White, Roswell; J. W. Jones, Jr., Roswell; Winston Lovelace, Loving; and J. B. Greer, La Union.

Delegates to the National Cotton Ginners' Association were named as follows: Carl Meriweather, Las Cruces; Leon Rice, Lovington; and Winston Lovelace, Loving.

OFFICERS AND DIRECTORS of the New Mexico Cotton Ginners Association pictured at their annual meeting at Ruidoso include, l. to r.: standing, Billy Griffin, Deming; Leon Rice, Lovington; and J. B. Greer, La Union, who was renamed vice-president of the association; seated, L. C. Thomas, Portales; Winston Lovelace, re-elected president of the organization; and J. P. White, Roswell. One director, J. W. Jones, Jr., Roswell, was not present when the photograph was made. Mrs. Flora Lawrence, Loving, who was continued as secretary-treasurer for another year, is also not shown.

Thomas J. Kidd Dies After Long Illness

Thomas J. Kidd, 71, chairman of the board of the Farmers & Ginners Cotton Oil Co., Birmingham, Ala., died in a hospital there June 21 after a long illness. A former president of the National Cottonseed Products Association, he had been active in the cottonseed crushing industry for many years before ill health forced him to retire a few years ago.

A native of Shelby County, Ala., Mr. Kidd went to Birmingham as a young man. In addition to his interests in the Birmingham oil mill, which he actively managed until his retirement, he was president of the Mutual Cotton Oil Co. at Ozark, Ala., and director of an insurance company. He was president of the National Cottonseed Products Association in 1938-39.

Two of his sons are active in the operation of the Farmers & Ginners Cotton Oil Co., James V. Kidd as president and Jack W. Kidd as vice-president. Other survivors include his wife; another son, Thomas J. Kidd, Jr.; two daughters, Mrs. W. T. Cothran and Mrs. Bob McCullough of Birmingham; a brother, James M. Kidd, Birmingham; and a sister, Mrs. Meeda K. Tinsley, Hartselle, Ala.

Oil Chemists Plan Field Trips After Fall Meet

A choice of field trips will be offered those in attendance at the twenty-fifth annual fall meeting of the American Oil Chemists' Society, to be held in Chicago Oct. 8-10 at the Edgewater Beach Hotel.

These trips are scheduled for the morning of Oct. 11: the Food and Container Institute of the Quartermaster Corps, Chicago, or the new research laboratory of S. C. Johnson and Son, Inc., Racine, Wis. R. W. Bates of Armour & Co. will be in charge, assisted by R. R. Allen and L. A. Goretta, both of Armour.

Arrangements for exhibits at the meeting will be made by R. H. Rogers, Jr., Swift & Co., Chicago. Other chairmen include H. T. Spannuth, program; J. L. Schille, entertainment; A. A. Kiess, hotel; Mrs. V. C. Mehlenbacher, ladies; and C. E. Morris, over-all head of the meeting. Technical papers are invited, and communications may be addressed to Mr. Spannuth at Wilson & Co., Chicago.

Cotton Congress to Give Broad Picture

■ Visitors will hear authorities outline latest developments in cotton world at twelfth annual research meeting July 26-28.

Ginners, cottonseed crushers and others attending the twelfth annual Cotton Research Congress, July 26-28, at Texas A. & M. College will have an opportunity to get first-hand information from research leaders whose work influences the present and future business of everyone connected with cotton and cottonseed.

Daily tours of research projects dealing with cotton production, ginning, cottonseed processing and other cotton activities will be a new feature of the 1951 Congress that will be of wide value to members of the industry, according to Burris C. Jackson, Hillsboro, general chairman of the Statewide Cotton Committee of Texas.

Brief addresses by leading authorities on research and other cotton and cottonseed activities will provide Congress visitors with a broad picture of the latest developments in the cotton world. The general theme of the meeting, "Research in Action," will be carried out in the addresses as well as the tours of experimental work.

Texas research will be featured at the opening session on Thursday morning, July 26, with Director R. D. Lewis of the Texas Agricultural Experiment Station reviewing the varied cotton and cottonseed research activities of the station.

Dr. Arthur W. Melloh, vice-director of the Texas Engineering Experiment Station, will summarize the cottonseed processing research which that institute is doing.

Cotton merchandising research in Texas will be the subject of Dr. A. B. Cox of the University of Texas, and textile developments will be discussed by Dr. Dysart E. Holcomb, dean, Texas Technological College.

Thursday afternoon will be devoted to one of the research tours, and the Congress Friday morning will open with another tour.

Assistant Secretary of Agriculture Knox T. Hutchinson, who raises cotton, other crops and livestock on his diversified farm in Tennessee, will discuss "Cotton Research and Mobilization" on the program Friday afternoon.

Cottonseed storage and processing research at the Southern Regional Research Laboratory, which is of wide interest to members of the oil mill industry, will be summarized at this session by Dr. A. M. Altschul, head of the Laboratory's protein and carbohydrate division, New Orleans, La.

Robert C. Jackson, American Cotton Manufacturers Institute, Charlotte, N. C., will tell how research serves American mills and their markets.

Research as it affects consumers will be the subject of Dr. M. K. Horne, chief economist of the National Cotton Council, Memphis, Tenn.

World developments will be the topic Saturday morning, with Read P. Dunn, Jr., of the National Cotton Council, Washington, D. C., reviewing the world outlook.

The Economic Cooperation Administration program for cotton will be outlined by E. D. White of that organization, and Winthrop G. Brown of the Department of State will discuss state department policies influencing cotton.

A tour and barbecue Saturday noon, given for Congress visitors by the Texas Planting Seed Association and Bryan Chamber of Commerce, will be the final events of the meeting.

Congress visitors will stay in the new air-conditioned Memorial Student Center, where the business sessions will be held. There will be cotton exhibits in this building, and an outdoor display of cotton machinery nearby.

• The U.S. has 1,141,615,364 acres of farm land.

Roots-Connersville Expands Connersville Plant

Investment of a million and a half dollars in a construction program covering new erection floor, expansion of present test facilities, manufacturing space, and machine tools by Roots-Connersville Blower Corp., Connersville, Ind., has been announced by John B. O'Connor, executive vice-president of Dresser Industries, Inc., Dallas, Texas, and Robert Owens, president of Roots-Connersville, one of 10 Dresser operating companies.

These new facilities will enable Roots-Connersville to test the largest centrifugal blowers and compressors ever designed, which it is now building.

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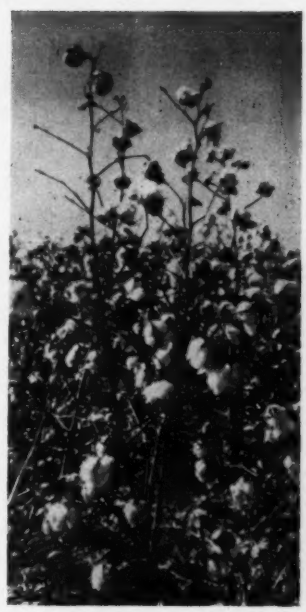
Trade Mark Patent Pending



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Commercial and experimental use show that Shed-A-Leaf will defoliate cotton plants from top to bottom—also that it is very economical to use. Shed-A-Leaf is a powder—to be dissolved in water and applied by airplane or ground sprayers. Good defoliation can be obtained even when there is no dew on the plants. Time of application is generally 2 to 3 weeks before picking.

IT PAYS TO DEFOLIATE

Experiment stations have found that chemical defoliation of cotton will:

1. Hasten maturity.
2. Reduce boll rot.
3. Reduce late insect infestation.
4. Facilitate hand or machine picking.
5. Reduce trash and leaf stain.
6. Permit earlier cover crop planting.

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Circular on Shed-A-Leaf and how to defoliate cotton

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PASADENA, TEX. BOUND BROOK, N. J. PALO ALTO, CALIF.

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Texas High Plains

Quality and Fiber Characteristics Of Mechanically Harvested Cotton[1]

By J. M. WARD, L. E. HESSLER, D. L. JONES and W. E. PAULSON[2]

IN THE HIGH PLAINS cotton area of Texas the growing season varies from 197 days in the northern section to 217 days in the southern. In the central part the average date of the first frost is Nov. 4. An analysis of dates and volumes of ginning as reported by the Census Bureau reveals that ginnings by Nov. 1 account for 40 percent of the crop in the southern section, 35 percent in the central section and 28 percent in the northern section. With the advent of cold weather, natural defoliation occurs and the opening of the bolls is accelerated. Acceleration of boll opening may be obtained by chemical defoliation before frost. Defoliation by natural or artificial means leaves the plants in the best condition for stripping. The cost of harvesting with mechanical strippers is relatively low, and this low cost tends to hold down prices paid for hand pulling. This situation, with the reluctance of much of the labor force to work during inclement weather, results in a heavy migration of harvesting laborers from this area following frost.

Beginning of Stripper Harvesting

Experience indicates that stripper harvesting can be started five to 10 days after the leaves fall from the cotton plant killed by frost, provided the bolls have matured. The desirable interval between the dropping of the leaves and the beginning of stripper harvesting varies according to the moisture content of the plants and bolls. If the plants have been chemically defoliated two to three weeks prior to frost, machine stripping can be started sooner than if the plants are allowed to stand until the leaves are removed by frost. Strippers are more efficient and less wasty when the stems of the plants are pliable. As the cotton crop reaches the proper condition for stripping, the period during which the machine may be operated most advantageously is strictly limited. Soon after a heavy frost the plant becomes brittle, and under such circumstance the machine-stripped bolls are mixed with much foreign matter in the form of stem and stalk fragments.

The 1949 cotton crop of the High Plains exceeded one and one-half million bales. The first freeze occurred Oct. 31. With the beginning of mechanical harvesting on a large scale, the daily rate of harvesting greatly exceeded the daily capacity of the gins. When the daily rate of stripper harvesting is high the gin plants must operate on a 24-hour basis. Beyond the point of harvesting up to full gin capacity, growers are faced with the alternative of storing the surplus seed cotton on the farm or at the gin plant, or of leaving the cotton unharvested in the field for later stripping when ginning service becomes more readily available. Most of the cotton growers of the High Plains in 1949 chose full scale stripping and farm storage of the surplus. Perhaps as much as 90 percent of the storing was on the ground in the cotton fields.

Collection of Seed Cotton Samples

Three hundred and two samples were collected from farm-stored cotton from the 1949 crop. Fifty-four of these samples were obtained at the time the seed cotton entered storage and the remainder at, or near, the time of ginning from storage stocks. The samples were representative of the counties in which machine-harvested cotton was farm-stored prior to ginning. They were stored as collected and later ginned on a small one-stand gin.

All the samples were graded and certain fiber properties determined. These properties were: length, mean length, length uniformity, strength, fineness and maturity. (See Definition of Terms, page 40.) Samples having similar fiber properties were combined for spinning and processing into fabrics.

Adaptability of Cottons to Mechanical Harvesting

Experience in the operation of mechanical cotton strippers indicates that the stormproof varieties are best adapted to mechanical harvesting. Such cottons have a special boll type in which the locks are held closely in bolls which open only partially and remain intact before and during the harvesting operation. The structure of the stormproof boll is such that the penetration of dust and moisture into the seed cotton is held to a minimum. These desirable properties of stormproof cottons are not characteristic of the normal or "open boll" cottons. The locks of openboll cottons tend to string out and fall during stripping. When the lint cotton samples were classed according to official standards, 75 percent of the stormproof, as against 47 percent of the non-stormproof cottons, graded as middling light spot, strict low middling and strict low middling bright. All these samples were from mechanically harvested cotton.

The grades of samples of mechanically harvested stormproof and open-boll varieties are summarized in Table 1. All the seed cotton samples were stored in sacks for a month or more before ginning. The storage period prior to sampling was four to nine weeks. No rain fell during this period of farm storage. All the cottons sampled in Cochran County were produced under dryland conditions. Eighty-eight percent of these samples were of stormproof varieties and 89 percent of them were harvested on or before the end of the mid-season harvesting period (Nov. 16 to Dec. 5). Seventy-nine percent of all samples and 86 percent of the stormproof cottons from this county were in the highest grade group. The growing season in this county is one of the shortest of any major cotton-producing county in the area.

Length of Growing Season and Gin Capacity

Most of the cottons sampled in Hale County were from irrigated fields. The length of the growing season is similar to that in Cochran County. Sixty-six percent of the stormproof varieties and 45 percent of all varieties were in the highest grade group. Forty-seven percent of all cotton sampled in this county was from stormproof varieties.

Growers of areas with the shortest growing season and the lowest gin capacity practice farm storing of seed cotton to the greatest extent. Farm storage of machine-stripped seed cotton was most prevalent in Cochran and Hale Counties following the 1949 harvest. On a representative farm in Cochran County, 700 bales were machine harvested from Oct. 18 to Nov. 17. A light frost occurred Oct. 10, which removed some of the leaves from the plants. The first severe frost was on Oct. 31. This crop was stored for nine weeks in 10 large piles. Samples from this seed cotton at the time of ginning averaged slightly above strict low middling. This was the highest grade lot from any farm sampled.

Factors Related to Quality

Cottons which gave the highest grades were grown on sandy and sandy loam soils. Seventy-one percent of the strict low middling bright grade and 49 percent

Table 1. Variety, grades and period of harvest of High Plains cotton, 1949.

County	No. Samples	Percent stormproof varieties	Percent stripped before Dec. 6	Percent st. low mid., mid., lt. sp. and stl. low mid. br.	
				Stormproof varieties	All varieties
Bailey	2	100	100	100	100
Cochran	67	88	89	86	79
Crosby	6	33	100	100	83
Dawson	7	57	100	50	67
Hale	80	47	91	66	45
Hockley	50	44	90	45	32
Lamb	20	50	95	80	50
Lubbock	35	37	80	69	57
Lynn	26	4	96		35
Terry	2		100		100
Yoakum	7	86	100	86	86
Total	302				

[1] Texas Agricultural Experiment Station Progress Report 1370.

[2] Respectively, assistant professor, Department of Agricultural Economics and Sociology, College Station, Texas; research associate, Cotton Research, Texas Technological College, Lubbock, Texas; superintendent, Substation No. 8, Lubbock; and professor, Department of Agricultural Economics and Sociology.

Table 2. Fineness and tensile strength of machine harvested High Plains cotton, 1949.

No. samples	Micrograms per inch [1]	Percent of total	No. samples	Tensile strength	Percent of total
185	3.9 & lower	61.3	88	Below 72	29.1
106	4.0 to 4.9	35.1	159	72 to 77	52.7
11	5.0 to 5.5	3.6	55	78 to 82	18.2
302		100.0	302		100.0

[1] Micronaire, linear scale.

of the strict low middling light spotted grades were produced on such soils.

Sixty-three percent of the samples from defoliated fields were in the highest grade group. The proportion of samples from such fields was low, six percent. The grades of cottons harvested after effective chemical defoliation were favorable, but equal and also more favorable results were obtained on a much greater acreage of cotton harvested without defoliation. The use of chemical defoliants was helpful, but not essential, to effective mechanical stripping of cotton under conditions prevailing on the High Plains during 1949.

Spinnability of Mechanically Harvested Cotton of the High Plains

Fineness and tensile strength of the cottons sampled in 1949 are summarized in Table 2. It is evident that a high percentage of these cottons had fine fibers and tensile strength below average. These cottons were mixed for spinning on the basis of similarity in fiber properties. Twist multipliers of 3.75, 4.25, 4.75 and 5.25 were used over a range of yarns of numbers 7's to 28's. (See Definition of Terms, page 40.)

Twenty-five spinning tests were run on the 1949 machine harvested cotton. Fiber properties were determined on the entire 302 samples. Neps varied rather closely with fineness, and it is believed that on the coarser yarns the effect of yarn appearance grade was not significant. Twist per inch is more important in the coarser cottons than in the finer. This means that the finer cottons take more twist before reaching a shearing point than is the case with the coarser cottons.

Since the High Plains cottons vary in fineness, spinning tests were provided over the range of fineness to show the spinnability, yarn grade and strength of these cottons. The spinning tests revealed that ⅞-inch cotton in the very fine category behaved differently during processing into 11's yarn than did the ⅞-inch cotton that was coarser and stronger. Maximum strength was obtained in nearly every instance with 14.2 turns per inch. Although the very fine ⅞-inch cotton had somewhat lower tensile strength than the other ⅞-inch cotton, the yarn made from the weaker, finer cotton was as strong as that made from the coarser, stronger cotton. The strength of the yarns made from the weaker and finer cotton was increased because of the possibility of packing more fibers into a bundle and thereby obtaining greater cohesiveness when twisted. Maximum strength in 14's yarn was usually reached for the fine fibers and the coarser fibers with a turn of 15.8 per inch.

The final test of a cotton is its performance in a fabric. A large number of samples of machine harvested cotton of one variety was grouped according to fiber properties for spinning and then made into fabrics. The main purpose of fabrication was to determine the effect of fineness on fabric strength and use values. Coarse fabrics, such as ducks, drills and sheetings, were made from these cottons. The tests indicated that fineness is not deterimental to the strength of the finished fabrics. The fabrics were of B grade, or better. The breaking strength data of the fabrics and previous experience in correlating such data with wearing qualities indicate that strong and durable fabrics can be made from High Plains cottons.

Summary

Samples of lint from stormproof varieties graded somewhat higher than those from other varieties.

Farm storage of mechanically-stripped seed cotton was more widely practiced in sections of the area having the shortest growing season and the lowest ginning capacity.

Higher grades were produced on sand and sandy loam soils than on the clay and clay soils.

High Plains cotton of ⅞-inch staple, fair tensile strength, and very fine to fine fiber processed into yarns equal in strength to those produced from coarser, stronger cotton of the same staple length. The tests also indicated

that these yarns processed into strong durable fabrics.

Definition of Terms

The *upper-half-mean* is the average length of the longest half of the fibers by weight and corresponds very closely to the staple length as determined by the classer.

The *mean length* is the average length of all fibers in the sample excluding those ¼ inch or under.

Uniformity is a measure of fiber length distribution and is obtained by dividing the mean by the upper-half-mean and expressing the result in percent. Above 80 is considered uniform in fiber length, 76 to 80 average, 71 to 75 slightly irregular and 70 or below irregular.

Fiber tensile strength is the force in 1,000 pounds required to separate the equivalent of a surface area of one square inch. Ninety or above is considered excellent, 83 to 89 very good, 78 to 82 average, 72 to 77 fair, and below 72 is considered weak.

Fiber fineness is the weight of 100 fibers as extracted from each length of an array in proportion to their relative weights in the array; 1.8 to 2.9 micrograms per inch is considered extra fine, 3.0 to 3.9 fine, 4.0 to 4.9 average, 5.0 to 5.9 coarse, and above 6.0 is considered very coarse.

Fiber maturity represents the percentage of thick-walled fibers. Eighty-four or above is considered very mature, 77 to 84 mature, 68 to 76 average, 60 to 67 immature, and 60 or below very immature.

Nep count shows the neps per 100 square inches of card web based on a 40-grain sliver. One to 15 is considered low, 16 to 25 average, 26 to 40 high, and above 40 is considered very high.

Twist multiplier indicates the twist per inch of yarn. The twist per inch applied to yarn is the product of the twist multiplier and the square root of the yarn number.

Ginning Short Course Is Planned for Delta

A two-day training course for Delta gin owners and operators has been scheduled for Aug. 1 and 2, C. P. Owen, Tunica, chairman, Delta Council Ginning Improvement Committee, has announced.

The short course, sponsored by the Mississippi Extension Service and Delta Council, will be held at the Leland High School Auditorium, Leland.

Mr. Owen said that the first day of the school will be devoted to a series of discussions on the various phases of gin operation and the use of equipment, with emphasis on operation of gins to produce "quality cotton." Instructors will be furnished by the Extension Service, gin machinery manufacturers and the U.S. Cotton Fiber and Ginning Laboratories.

A portion of the second day will be devoted to gin tours. Plans are being made to visit selected gins representing different makes of gin machinery. Technical personnel will demonstrate the operation and adjustment of equipment to obtain maximum results from the standpoint of efficiency and quality.

This is the second year of the Delta ginners' short course. Mr. Owen said every effort will be made to assure an interesting and effective program and that a large attendance is expected.

Council's Cotton Fashion Displays Make Big Hit

Exhibits displaying smart cotton fabrics and fashions at schools and clubs have met with unusual success in stimulating interest in cotton apparel and home furnishings this year, the National Cotton Council said this week.

Letters from virtually every user of the Council's loan exhibits of cotton styles and fabrics indicate that the collections have brought a new conception of cotton as a year-round fashion fabric and as a versatile home decorating material. Sales of cotton fashions and fabrics have resulted directly from the displays, the letters reveal.

Typical of the reaction of the display borrowers was the comment of the chairman of a college home economics department at a Washington university. She reported, "Those who viewed the garments have a new intelligence about what place cotton has in the entire wardrobe throughout the entire year."

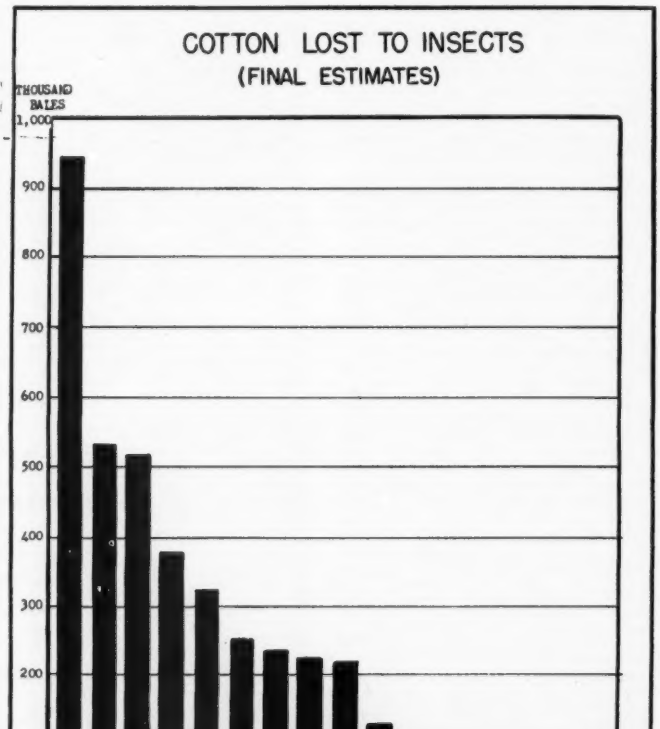
From a New York school teacher came the comment, "The dresses were loved so much by all of the girls that now they want to make them." One county agent in the state of Washington told the Council, "This county is one where many do not get to large er shopping centers, so do a great deal of ordering through mail order houses. They especially appreciated the opportunity of actually seeing swatches of new materials."

A Georgia clothing specialist wrote, "All of the groups that saw the wardrobe were very impressed and went home inspired to do their spring sewing." A Mississippi high school teacher reported, "Girls and adults were anxious to know where similar outfits could be obtained."

The exhibits have been shown in every section of the country to groups as large as 6,500. Audiences have varied from fine arts students at Drake University in Iowa to pupils at Coolidge Junior High School in Natick, Mass.

The displays are booked without cost by writing Fashion Director, National Cotton Council, 271 Church St., New York 13, N. Y.

• Every year diseases and parasites in this country kill enough farm animals—mostly young animals—to supply enough meat to feed 10 million people for the entire year.



Carolinas Ginners Meet in Districts

The program presented at the six annual district meetings of the Carolinas Ginners' Association held during the week of June 18, was consistent with the exception of the speakers.

Highlighting the meetings was an address by Ed Gillespie of the National Cotton Council's Washington staff, in which he discussed matters in Washington that affect cotton ginners. Some of the points he covered were ceiling price regulations on gin service, ceilings on bagging and ties, area of production, the cottonseed support program and the bagging and tie situation.

"Points to Be Considered in Gin Operation During a Heavy Season" was the subject discussed by the respective state gin specialists, with the assistance of J. C. Oglesbee, USDA cotton ginning specialist for the Southeast, Atlanta, Ga. The specialists pointed out that the ginner should handle the cotton in such a way as to obtain the highest dollar value from a bale of cotton.

Tom Hays, North Carolina field representative of the National Cotton Council, gave a brief talk on the work, relationship and functions of cotton organizations.

In South Carolina John C. Bell, Inman Mills, Inman, S. C., spoke at the meeting in Bishopville on "The Cotton Ginner as the Initial Cotton Buyer." Speaking on the same subject were Harry Defore, Deering-Milliken Mill Group, Union, S. C. at the meeting in Greenwood, and T. D. Truluck, manager cotton department, Deering-Milliken Mill Group, Union, S. C., at Orangeburg. Fred P. Johnson, marketing specialist of the North Carolina Department of Agriculture, handled that subject in North Carolina.

The ginners were called on to wrap cotton at their gins properly and make a nice package of the bale. They were also urged to refrain from using marking ink and bagging that would fade on the cotton.

The following directors were elected to serve for 1952: G. T. McLees, Westminster, S. C.; J. M. Barr, Leesville, S. C.; O. L. Edwards, St. Charles, S. C.; J. F. McLaurin, Bennettsville, S. C.; Frank Wannamaker, St. Matthews, S. C.; Talley E. Smith, Rowesville, S. C.; Forrest S. Crowder, Lattimore, N. C.; W. E. Ashcraft, Monroe, N. C.; Myres W. Tilghman, Dunn, N. C.; Clyde E. Upchurch, Jr., Raeford, N. C.; J. W. Robbins, Scotland Neck, N. C.; and Carl T. Hicks, Walstonburg, N. C.

After each meeting the groups ate lunch or supper, depending on whether the meeting was a morning meeting or a night session. Attendance at the six meetings was approximately 260, or about an average of 45 at each meeting. The Greenwood, S. C., meeting was tops in attendance, with 68 present.

Australia's Oilseed Crops

Production of the major oilseeds in Australia in 1950-51 increased about 13 percent compared with 1949-50. The expansion was due almost entirely to a 30 percent increase in flaxseed, although cottonseed production, which is relatively unimportant, more than doubled.

Puerto Rico Is Added to Southern Lab's Area

Puerto Rico is now included in the agricultural area served by the Bureau of Agricultural and Industrial Chemistry's Southern Regional Research Laboratory in New Orleans, according to Dr. C. H. Fisher, director.

The Secretary of Agriculture has approved a proposal for the addition which was concurred in by the directors of southern state experiment stations during their New Orleans meeting in March, he said.

This is the second increase in the Southern Laboratory's region this year, Dr. Fisher added. During February, Tennessee and North Carolina were transferred from the area served by the Eastern Regional Research Laboratory in Philadelphia.

States originally assigned to the Southern Region include Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, Oklahoma, South Carolina and Texas.

Latane Temple Heads Temple Cotton Oil

Latane Temple, formerly executive vice-president and general manager, has been moved up to the presidency of Temple Cotton Oil Co., Little Rock, Ark., cottonseed oil mill operator. He succeeds Arthur Temple.

Arthur Temple, Jr., has been elected vice-president of the company. T. E. Cochran continues as secretary-treasurer.

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USDA Proposes Revision of Pima Cotton Standards

Consideration is being given to revision of standards for grades of American-Egyptian cotton, USDA has announced. Currently there are two sets of standards for American-Egyptian cotton, one for Pima variety and one for SXP variety.

Officials stated that both of these varieties are rapidly going out of production, and that it is essential that standards be changed at the earliest possible moment to fit current crops of this important growth of cotton. It is proposed that revised standards become effective on and after Aug. 1, 1952.

USDA stated that in response to the urgent need for revision of standards, USDA specialists carefully surveyed the 1950-51 crop of American-Egyptian cotton and assembled a proposed set of new grade standards. The boxes containing proposed standards were presented to various members of the cotton industry and trade for suggestions, and where practicable these suggestions have been incorporated into the proposed new standards.

Quotes on Cotton

Prepared by the Educational Service, National Cottonseed Products Association, Dallas

SOUTH'S BIRTHRIGHT — "Cotton is the South's Birthright. It still reigns as king and probably will for years to come." — F. S. Chance, Tennessee Experiment Station.

•

OPPORTUNITY IN MACHINES — "Cotton's best opportunity to meet competition lies in using machines."—E. D. White, Economic Cooperation Administration.

•

TWENTY-ONE MILLION DOLLARS DAILY — "Cotton meant about $21,095,000 cash income each working day for Cotton Belt farmers during the 1950 growing season." — National Cotton Council.

•

RESEARCH IS NECESSARY — "DuPont does research because it has to. Like a man on a moving treadmill, a chemical firm cannot stand still without going backward. Research is good business."—From report of the DuPont Co.

•

EAGER TO HELP — "Cotton's most pressing competitor can be equalled or outdistanced only by lowering the cost to the spinner and by assuring him of ample supply of the grades and staple that meet his needs. Research is eager to help accomplish these tasks."—Dr. Louis E. Hawkins, Oklahoma Experiment Station.

•

MUST EMPHASIZE COTTON—"The place of cotton in the economy of the South is so important that any true rural educational program must continue to place great emphasis upon it."—David S. Weaver, North Carolina Extension Service.

•

USE ALL ACRES WELL—"The cotton farmer produces other crops, and his success will depend upon the combined profitableness of all his enterprises. We can no longer be haphazard in handling these other acres and crops."—James Hand, Jr., Mississippi cotton planter.

General Mills Names Rossford Mill Staff

Whitney H. Eastman, president of the Chemical Division of General Mills, has announced appointments to the management staff of the new Rossford, Ohio, soybean extraction plant now under construction.

Glenn W. Martin, formerly plant engineer at the Chemical Division plant at Belmond, Iowa, has been named plant superintendent at Rossford.

Louis R. Brewster, who now holds the position of grain accountant for the division, will be office manager and soybean buyer at the Rossford plant.

J. Raymond Wright, leadman in the refinery at Belmond, Iowa, has been selected to become production supervisor.

Succeeding Mr. Martin as plant engineer at Belmond is Carl D. Robbins, formerly a leadman in the Belmond plant's maintenance department.

Lever Bros. Opens New Plant at Los Angeles

Lever Brothers Co. officially opened its new soap, detergent and shortening plant, called the most modern in the world, at Los Angeles, Cailf., June 19.

First shipments from the plant were loaded aboard a helicopter by company officials for air delivery to the governors of the 11 western states which the new plant will serve.

Los Angeles business leaders hailed the ultra-modern $25 million plant as the greatest expansion of soap, detergent and shortening manufacturing yet seen in the west. The new plant is the company's eighth. Occupying only one-third of a 30-acre plot eight miles east of downtown Los Angeles, each year it will turn out products amounting to more than 4,500 freight car loads.

BEPQ Names Bruce Director Of Southeastern Region

W. G. Bruce has been selected as director of the Southeastern Region of the Bureau of Entomology and Plant Quarantine, with headquarters at Gulfport, Miss.

In his new position Mr. Bruce will direct the bureau's regulatory, control and administrative functions in nine states (Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, and Tennessee) in the Southeastern region. The region is one of five recently established in a reorganization of the regulatory, control and administrative functions of the bureau to facilitate getting the best possible results from available manpower and equipment.

Hereford Show to Be Best In Texas Fair's History

More than 500 aristocrats of the Hereford cattle breed from 30 states and Canada will compete in the Pan-American Hereford Show at the 1951 State Fair of Texas, Oct. 6-11, Ben E. Cabell, chairman of the fair's livestock committee, has announced.

Premiums of $25,000 plus six silver service trophies valued at $3,000 will be at stake in this, the greatest cattle show in the history of the fair. The awards are the highest the State Fair of Texas has ever posted for any one show.

One of the highlights of the 1951 fair will be the spectacular Parade of Champions on the evening of Oct. 9 in the fair's new $125,000 Livestock Judging Pavilion. This big free show will be a dramatic presentation of the great Hereford breed, a tribute to the importance of the Hereford industry in Texas and the Southwest, Mr. Cabell said.

The show will be widely publicized in all Pan-American countries. Livestock and agriculture leaders and government officials from Western Hemisphere nations will be invited. All state Hereford associations in the U.S. have been invited to participate.

The show will take a practical approach to Hereford raising that will appeal especially to commercial cattlemen in the newly devoloped livestock areas of East and North Texas, as well as to ranchmen of West and South Texas, Mr. Cabell said.

Missouri Producers Study Land Fertility Problem

Alarmed at the gradual decrease in the productivity of the soil in the state's cotton belt, the Missouri Cotton Producers Association sponsored a meeting at the Sikeston Experiment Station June 22 in an effort to determine the causes of lessened productivity and the steps to take to correct them.

Dr. W. C. Ethridge, professor of field crops of the University of Missouri College of Agriculture, and two USDA officials led the discussion. Also attending were members of the special Cotton Sub-Committee recently set up by the Missouri House of Representatives.

"In cotton production alone the yield has dropped as much as 100 pounds per acre during the last 10 years," Ronnie F. Greenwell, executive vice-president of the group, declared. "Something definitely has happened to the land, causing it to lose fertility in spite of various conservation practices," he explained. "We have more trouble getting satisfactory stands, and insect damage is greater and more frequent than in past years."

1951-52 Cotton Export Allocation Is Announced

Secretary of Agriculture Brannan has announced a preliminary export allocation of 2,500,000 bales of cotton to be licensed for export during the period from Aug. 1 through Nov. 30. Exports under this initial allocation must be licensed during this four-month period, but actual shipment may be made at any time within the period specified in the license.

1950-51 Cotton Crop in El Salvador Drops

Recent estimates place the 1950-51 production of cotton in El Salvador at almost 28,000 bales (500 pounds gross weight), or slightly less than the 31,000 bales produced in 1949-50.

Earlier forecasts of 37,000 bales for the current crop have now been reduced because of unfavorable weather and insect infestation late in the season. While the production decreased from 1949-50, harvested acreage increased from 43,000 acres in 1949-50 to a record level of about 52,000 acres during the current season. This resulted in a corresponding decrease in average yields from 346 pounds of lint cotton per acre in 1949-50 to 258 pounds in 1950-51. The crop was of the Deltapine 15 variety, an American Upland type.

It is expected that acreage planted to cotton in the 1951-52 season will increase somewhat due to current favorable prices and interest in the crop shown by farmers. Although the serious earthquake in El Salvador in May 1951 struck the cotton region, little damage was done to the crop as it occurred after harvesting had been completed. Personal losses to farmers may cause some difficulties in financing the coming crop, planting of which begins in July. A recent program undertaken by the government establishes support prices for certain staple lengths of domestic cotton. However, this program includes ceiling prices on cotton for local consumption which, combined with the rising prices of rented land on which a large portion of the crop is grown, probably will result in a leveling off of cotton production.

Prices paid to the farmers for ginned cotton are set by the Cotton Growers' Cooperative, which markets all cotton grown in El Salvador. These prices must be approved by the Study and Planning Commission for the Textile Industry, which has representatives from the government, the cooperative, and the local cotton manufacturing industry. The price scale, based on the equivalent of approximately 34 U.S. cents a pound for Middling since the 1946-47 crop, was revised upward for the first time on Oct. 1, 1950, to about 40 cents for Middling. Basis staple length was not mentioned but nearly all of the crop ranges from 1 to 1⅛ inches in staple. Export prices, however, which follow world quotations, rose considerably above the levels fixed for the local market. Profits from the export business were distributed proportionately among the cotton farmers by the cooperative. Although the cooperative attempted several times to raise the domestic fixed price to 50 cents a pound, it was unsuccessful in obtaining the approval of the commission.

Exports of cotton are controlled by the cooperative, which established a tentative quota of about 13,000 bales for export in 1950-51 based on a crop of about 25,000 bales. Although no statistics are yet available on exports from the 1950-51 crop, it is understood that a sizeable amount was shipped to the United Kingdom, which initiated purchases of Salvadoran cotton during the 1949-50 season. In addition, some cotton was probably shipped to Belgium and Japan, as well as to the traditional market, Guatemala.

Ark.-Mo. Ginners Appoint Bruton Executive Secretary

Appointment of W. Kemper Bruton of Memphis as executive secretary of the Arkansas-Missouri Cotton Ginners Association was announced this week by J. P. Ross, Essex, Mo., president.

Mr. Ross said the appointment of an executive secretary is one of the steps recommended by the association at its annual meeting in Hot Springs in June at which it adopted plans for reorganization.

The executive secretary's headquarters will be at Blytheville, Ark.

Until his appointment as executive secretary to the ginners association, Mr. Bruton had served as mid-South area supervisor in the Field Service Division of the National Cotton Council. His territory included Arkansas, Missouri, Louisiana, Mississippi and Tennessee. He had been with the Cotton Council for six years and had served as supervisor for the western states of California, Arizona, New Mexico, Texas and Oklahoma.

Reorganization plans for the Arkansas-Missouri Cotton Ginners Association call for active programs and service designed to aid ginners in matters of public relations, efficient operation, and legislation, Mr. Ross said.

Infestations Still Light

Cotton Insect Situation—July 1

■ Boll weevil population is on increase, but heavy infestation of last year is not expected to develop. Most other insects are reported in scattered areas. Pink bollworm has been found only in previously infested territory.

The boll weevil has taken its usual high rank as a pest of cotton, USDA and state entomologists reported during the latter half of June and first week in July.

Rains during June brought the weevils out of hibernation in many areas, USDA pointed out in its fifth cotton insect survey report for 1951, dated June 22. Heavy weevil populations were found in thousands of fields in many counties across the Cotton Belt from central Texas to the Atlantic coast.

A new generation of weevils was developing at the time of the report in southern Georgia and Florida and other Gulf states. Weevils had made their appearance in Virginia and in many counties in North Carolina, Tennessee and Arkansas, and in some of the northern and western counties of Oklahoma.

Although it is not likely that the boll weevil populations will become as high in a dozen states as they were in 1950, USDA pointed out, this could happen in all the boll weevil states if weather conditions during the next few weeks are especially favorable for the weevils. Where rains and humid conditions prevail, weevils will increase rapidly, but it is hoped they will be checked in many areas by hot, dry weather.

Cotton growers who had to contend with heavy boll weevil population during 1949 or 1950 should be prepared to fight the weevils during July and August, USDA warned.

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• **Alabama**—By mid-June boll weevils were found in 20 of the 61 fields examined in 10 counties in east-central Alabama, with highest population in Talladega County, where 350, 280 and 70 weevils per acre were reported for three of the six fields examined. No weevils were found in 12 fields examined in Cleburne and Randolph Counties.

In central and west-central Alabama weevils were reported in 33 of 60 fields examined in 10 counties, with a rate of 142 weevils per acre in infested fields and at the average rate of 78 per acre in all fields examined.

Moderate to severe thrips damage was discovered in five counties, and aphids were found in more than half the fields examined.

• **Arizona**—Some bollworms and a few mites have been noticed in Maricopa and Pinal Counties in Arizona, where injurious insects seemed to be on the increase the latter part of June.

Lygus bugs were injuring stub and early cotton in the Salt River Valley. Thrips damage was serious in several late-planted fields in the Eloy area, with counts in some fields showing populations of 75 to 80 thrips per plant. Beet armyworms were also causing severe damage in some fields there and in the Santa Cruz Valley, where bollworms were found in large squares. Aphids were noted in Cochise County.

• **Arkansas** — The first report since scouts began insect surveys in Arkansas, dated June 25, showed that of 61 fields checked in Lafayette County all but three were infested, with a maximum of 1,000 live weevils per acre.

Heavy weevil infestations in the Red River bottoms and the hill areas of northern Louisiana were expected to spread to southern Arkansas.

In southeastern Arkansas light infestations were found in a number of fields, with a maximum count of 125 live weevils per acre. Population counts in the eastern part of the state ranged from 12 to 1,440 live weevils per acre, with many fields uninfested. No weevils were discovered in 20 fields checked in Craighead County, but other northeastern counties showed some infested fields.

Scattered infestations of bollworms of little importance were reported. Thrips and aphids had almost disappeared, but scattered infestations of red spider were found.

• **Florida**—Some weevils and punctured squares were collected by Central Florida Experiment Station workers at Sanford.

• **Georgia**—Few boll weevils were indicated by population counts in Georgia early in June. By June 22 weevils were discovered in 88 of the 170 fields examined in 30 counties. They were present in 35 of the 74 poisoned fields examined and in 53 of the 96 fields that had not been treated with insecticides. Average infestation in the treated fields was 2.61 percent punctured squares, with an average of 4.67 percent punctured squares in untreated fields. Highest infestation reported was 20 percent punctured squares in a field in Fayette County.

Thrips injured some cotton in north-central Georgia severely, and cutworms were reported in southwest Georgia.

Bollworms were found in 47 out of 170 fields examined in 30 counties by June 22, although average infestation in no county exceeded two percent damaged squares.

• **Louisiana** — Boll weevil infestations in the hill areas of northern Louisiana seemed to be as heavy as in 1950 by mid-June, entomologists reported. The weevils were also appearing in north central Louisiana in heavy numbers following rains. Near Tallulah an average of 310 weevils per acre was found by June 14. Weevils were found in all of the 26 fields examined in eight parishes, but no weevils were found in two previously poisoned fields examined in Caldwell Parish.

No pink bollworms had been found in Louisiana by June 12, according to the Division of Pink Bollworm Control.

• **Mississippi**—An increase in the boll weevil infestation during the last week in June was reported by the Mississippi State Plant Board July 2. Of 679 farms in 47 counties examined that week, 545 were found to be infested with an average square infestation of 14 percent. Five weevils per acre were reported on two farms where no squares were present. This compares with 173 weevils per acre and 10 percent infested squares during the preceding week and 688 weevils per acre and 22 percent infested squares at the end of June last year.

One field in Lee County had 96 percent of the squares infested and another had 90 percent infestation. Weevils were general across the state, but infestation was low in most cases.

Bollworms were causing less trouble than at previous surveys.

• **Missouri**—Considerable aphid damage was found in some fields in Missouri, a report on June 19 said.

• **New Mexico** — Extremely hot, dry weather in New Mexico during the third week in June resulted in a rapid build-up of thrips in the Mesilla Valley, Deming and Lovington areas. Aphids were reported present throughout the state, but weather was favorable for their control. Red spider had been noted in several places near Deming.

A few fleahoppers were reported in Eddy, Dona Ana and Lea Counties, and Eddy and Dona Ana Counties had light infestations of lygus bugs. Stink bugs were also reported in small numbers in Lea, Dona Ana and Luna Counties.

• **North Carolina** — Boll weevils began showing up in North Carolina in greater numbers by mid-June. Square infestation went as high as 29 percent (Johnson County).

Spider mites had been found in a few fields in Cleveland and Rutherford Counties. Heavy aphid infestations were discovered in a few fields. Thrips were

(Continued on Page 49)

Effect of

Methoxone on Young Cotton Plants[1]

By WAYNE J. McILRATH
Assistant Professor, Department of Plant Physiology and Pathology, Texas Agricultural Experiment Station

REPORTS from the North Central Weed Conference indicate that some plants show less malformation after applications of Methoxone (2-methyl-4-chlorophenoxyacetic acid) than they do to equivalent concentrations of 2,4-D (2,4-dichlorophenoxyacetic acid). One-half pound of Methoxone per acre, for example, induced less plant malformation in canning peas than did one-fourth pound of 2,4-D amine. These reports indicate, however, that alfalfa was damaged about as much by this material as by 2,4-D. Because of the known sensitivity of cotton to 2,4-D, it was desirable to learn the tolerance of this crop to Methoxone, with the view of its substitution as a herbicide where it is impossible to use 2,4-D because of the nearness of cotton.

Experimentation and Discussion

Groups of three 20-day-old Stoneville 2B cotton plants were treated with each of the quantities of Methoxone (sodium salt) shown in Table 1. These plants were grown in the greenhouse and at the time of treatment had two true leaves, with the third and fourth leaves just beginning to expand. The various amounts of herbicide were applied as aqueous solutions over the entire surface of the plants with a small hand atomizer. Each liter of solution contained one milliliter of Grasselli spreader. Extreme care was taken to prevent run-off of the solution so as to insure as accurate a quantitative application as possible.

Two days after the application of Methoxone, plants in all treatments showed burning of the foliage. Effects of the various treatments on the vegetative growth of the plants, as exhibited on the twelfth and forty-sixth day following application, are given in Table 1. Malformation of the leaves after treatment closely resembled that caused by 2,4-D (See Texas Agricultural Experiment Station Bulletin 713, **Responses of Cotton to 2,4-D.**) This malformation of new leaves induced by Methoxone differs from the response observed in canning peas as the new growth in peas was not affected. The swelling of the cotton stems was also similar to that resulting from a 2,4-D application.

Table 2 shows the effects of the various amounts of Methoxone on the number of malformed leaves produced on the main stem, vegetative lateral branches initiated and days to flowering and fruiting. The plant in the 0.50 mg. treatment was still alive after 6 months but had not shown any additional growth except for the thickening of the leaves present at the time of treatment and an extreme swelling of the stem.

In general, the effects of Methoxone on the cotton plant appeared to be very similar to those caused by 2,4-D. Observations did indicate that, under the conditions of this experiment, the cotton plant was somewhat more sensitive to equivalent amounts of 2,4-D (sodium salt). The following two examples are cited to illustrate this point. An application of 0.01 mg. of 2,4-D to plants of the same age as those used in this experiment caused a complete stoppage of upward growth of the main stem and all subsequent growth occurred through developing lateral branches. An application of this quantity of Methoxone resulted in no visible reduction in main stem growth, as compared with untreated plants. Another factor indicating the more severe effect of 2,4-D is the number of days it took plants treated with equivalent amounts of these two materials to produce flowers. Plants subjected to 0.01 mg. of Methoxone produced their first open flowers 83 days after treatment, while those subjected to this quantity of 2,4-D did not have open flowers until 110 days after treatment.

Conclusions

Although this report is based on a very limited number of observations, it is evident that the amount of Methoxone required to cause injury to young cotton plants is very small. Also, in spite of the fact that cotton is somewhat less sensitive to this material than it is to 2,4-D, within the normal range of herbicidal dosages, Methoxone will cause severe damage to this crop.

Acknowledgment

Acknowledgment is made to the Chipman Chemical Co., Bound Brook, N. J., which suplied the Methoxone used in this investigation.

[1] Progress Report 1377, Texas Agricultural Experiment Station.

Table 1. Vegetative responses of Stoneville 2B cotton plants treated when 20 days old with Methoxone (sodium salt)

Amount per plant in milligrams [1]	Equivalent to one ounce per acre [2]	Effects after 12 days	Effects after 46 days
0.01	140.0	Malformation of new leaves	New leaves normal; no vegetative laterals; no swelling of main stem.
0.04	35.0	Malformation of new leaves	New leaves showing slight malformation; vegetative laterals being produced; slight swelling of main stem.
0.10	14.0	Malformation of new leaves	New leaves showing severe malformation; vegetative laterals being produced; moderate swelling of main stem.
0.50	2.8	Two plants dying; no malformation of new leaves.	Two plants completely dead; other with terminal main stem bud dead; severe swelling of main stem.
1.00	1.4	Plants dead	

[1] Based on acid equivalent.
[2] Assuming 20,000 cotton plants per acre and a uniform dosage to all plants.

Table 2. Vegetative and reproductive responses of Stoneville 2B cotton plants treated when 20 days old with Methoxone (sodium salt) [1]

Milligrams per plant [2]	Malformed leaves on main stem	Vegetative laterals	After planting: Days to first open flower	After planting: Days to first open boll
None	0	0	77	131
0.01	6	0	108	154
0.04	11	1.3	106	160
0.10	13	1.0	110	165

[1] Average of 3 plants.
[2] Based on acid equivalent.

Buckeye Leases Evadale Plant of Delta Products

The Buckeye Cotton Oil Co. has announced that it has leased all properties of the Delta Products Co. at Evadale, Ark., effective July 1, for a period of five years.

The properties include a solvent oil mill, refining and processing units for vegetable oils.

The Buckeye Cotton Oil Company has, for a number of years, worked in this Arkansas-Missouri area to increase the growing of soybeans. The development of the crop has now reached a stage that Buckeye finds it necessary to provide more facilities to efficiently handle the crop for the farmers and customers in this area.

Medina, Tenn., Gin to Be Rebuilt After Fire

A new modern plant will be built at Medina, Tenn., by the Tri-County Gin Co. of Milan, Tenn., owner of the Medina gin which was destroyed by fire June 1.

Company officials said that the fire loss was partially covered by insurance. The company, which operates eight gins, is owned by C. V. Alexander, I. N. McLean, J. C. Browning and W. T. Pigott, all of Milan.

South Texas Mills Appoint Pryor Gen. Superintendent

Oscar Robinson, general manager of South Texas Cotton Oil Co., Austin, Texas, has announced the appointment of T. S. Pryor as general mill superintendent for the company's oil mills, with headquarters at Corpus Christi, Texas.

Mr. Pryor was formerly district engineer with Southern Cotton Oil Co., with headquarters at Montgomery, Ala.

• There is enough cotton consumed in America each year to make a bolt of cloth 6,800,000 miles in length —28 times the distance to the moon.

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★ "The Defense* Bonds I bought through Payroll Savings in '41 helped me to buy my new home!" says ***G. F. Nelson,*** manufacturing technologist at Shell Oil Company. Congratulating Mr. Nelson is Shell Vice President and former Air Force General ***"Jimmy" Doolittle,*** who adds, "At Shell we believe in Payroll Savings—it's a patriotic and *practical* way to do a job for defense!"

★ "The Savings Bonds I'm buying now for America's defense will add almost $100 a month to my company pension when I retire," SP Engineer ***Frank Bacher*** tells his old friend, ***A. T. Mercier,*** President of the Southern Pacific Railroad. "They're an extra step toward independence in which the railroad helped me by encouraging me to join the Payroll Savings Plan."

★ ***Mrs. Eleanor Minkwic,*** drill press operator of Burroughs Adding Machine Company, introduces her Army veteran son Vernon, to her boss, Burroughs President ***John S. Coleman.*** "In 1942 I began buying Bonds through Payroll Savings at Burroughs," says Mrs. Minkwic. "Today they're helping Vernon's G.I. allowance to see him through college!"

TEAM UP WITH THESE TYPICAL AMERICANS IN THE PAYROLL SAVINGS PLAN!

★ ***Pasquale Santella,*** millwright at United States Steel Company's Carrie Furnaces of the Homestead District Works, has a very personal reason for buying Savings Bonds. As he told ***C. F. Hood,*** United States Steel Company executive vice president, "My son Tony, 19, is missing in Korea. Used to be I bought bonds because it was my duty and it was a good way to save money. Now I want to help lick the Reds and get Tony back. I buy one bond every payday and when Uncle Sam needs more money, I'll buy *more* bonds." He has bought bonds regularly since 1943; has never cashed one.

* U.S. Savings Bonds are Defense Bonds Buy Them Regularly!

TODAY join with these Americans—business leaders and employees—in their drive to make our country and our citizens more secure. If you're an employee, go to your company's pay office *now* and start buying U. S. Defense Bonds through the Payroll Savings Plan—the safe, sure way to save for America's defense and for personal dreams-come-true.

If you're an employer, and have not yet installed the easily handled Plan, you will soon be contacted by one of industry's leading executives. Sign up with him—and help him put the Plan in every company! It's a practical, hard-sense way to help preserve our nation's future, its fortune, and the very institutions that make our lives worth while!

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CALENDAR

Conventions · Meetings · Events

• **July 26-27-28 — Annual Cotton Research Congress. Memorial Student Center, Texas A. & M. College, College Station. Sponsored by Statewide Cotton Committee of Texas, Burris C. Jackson, Hillsboro, chairman.**

• **Sept. 6-7-8—American Soybean Association annual convention. Hotel Fort Des Moines, Des Moines, Iowa. George M. Strayer, Hudson, Iowa, secretary-treasurer.**

• **November 8-9—Fifth Annual Beltwide Cotton Mechanization Conference, Chickasha, Okla. For information, write National Cotton Council, P. O. Box 18, Memphis 1, Tenn., sponsor of the conference.**

• **March 30, 1952—National Cotton Ginners' Association annual meeting. Baker Hotel, Dallas, Texas. Carl Trice Williams, P. O. Box 369, Jackson, Tenn., secretary-treasurer.**

• **March 31, April 1-2, 1952 — Texas Cotton Ginners' Association annual convention. Fair Park, Dallas, Texas. Jay C. Stilley, 109 North Second Ave., Dallas 1, Texas, executive vice-president. For exhibit space, write R. Haughton, President Gin Machinery & Supply Assn., Inc., P. O. Box 444, 3116 Commerce St., Dallas 1, Texas.**

• **May 19-20-21, 1952—National Cottonseed Products Association's annual convention. Roosevelt Hotel, New Orleans, La. S. M. Harmon, Sterick Bldg., Memphis 3, Tenn., secretary-treasurer.**

• **June 8-9-10-11, 1952—North Carolina Cottonseed Crushers Association - South Carolina Cotton Seed Crushers' Association joint annual convention. The Cavalier, Virginia Beach, Va. Mrs. M. U. Hogue, P. O. Box 747, Raleigh, N. C., secretary-treasurer, North Carolina association; Mrs. Durrett Williams, 609 Palmetto Bldg., Columbia 1, S. C., treasurer, South Carolina association.**

French West Africa's Palm Oil and Kernel Review

During 1950 production of palm oil and palm kernels in French West Africa was estimated at 100,000 short tons of oil and 98,500 tons of kernels.

Next to peanut oil, palm oil is of the greatest importance in providing the natives with vegetable oils. At present the greater part of the palm oil is produced with native hand presses and consumed locally. The oil is high in acidity and generally is not competitive in foreign markets. During 1950 an estimated 90,000 tons were thus consumed and an additional 12,345 tons exported, principally to France.

A French government corporation for the development of oleaginous products in the French Overseas Territories has already completed three palm oil mills —one in the Ivory Coast, one in Dahomey and another in the Cameroons. These mills, with a total capacity of 11,000 tons of oil a year, are now in production. When the program is completed in 1954 a total of eight new plants having a capacity of 17,600 tons will be available, and provisions have been made to raise this capacity to 46,-300 tons per year if such expansion becomes advisable.

Not only will these factories make possible an increase in palm oil exports, but they will also directly contribute to a higher living standard for the native workers of the palm regions. Under the hand press system, a native, picking palm nuts and making his own oil, can produce a maximum of 3.5 to 4 liters (7 to 8 pounds) of poor quality palm oil per day, while the palm kernels are never crushed. With the factory system the same worker in one-half day can obtain the equivalent value of four liters of oil of good quality. The new mills will make possible the extraction of 90-93 percent of the oil from the outer nuts, compared with a yield of 70-73 percent by crude methods, as well as 95 percent of the oil from the kernels. Moreover the acid content of this palm oil will be considerably reduced by the new factory process.

As the new palm oil factories settle into regular production of high grade palm oil, the price of palm oil—other considerations remaining constant—is likely to tend upward. Native-produced palm oil has an acid content ranging from 16 to 23 percent. The palm oil currently being produced in the factories is of less than five percent acidity and will logically bring a higher price.

Stocks of palm kernels as of mid-May were about 11,000 tons, while oil stocks were somewhat over 3,000 tons. These stocks are considerably larger than they were a year ago.

Classified Advertising

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Oil Mill Equipment for Sale

FOR SALE — Three-section cage French screw presses with 40 h.p. flange mounted motor and tempering bin. Also No. 1 Anderson expellers, belt driven, attractively priced. Inquire—Box 493, care The Cotton Gin and Oil Mill Press, P. O. Box 444, Dallas 1, Texas.

OIL MILL MACHINERY FOR SALE: Cookers — Pumps — Presses — Cylinders — Heads — Columns — Formers — Accumulators — Hydraulic Pumps — Hot Cake Cutters and Strippers — Cake Bin Feeders — Filter Presses, 32x32 with 49 Plates — Electric Motors, 15 to 150 h.p. with starters — Shaft Coupling and Pulleys — 30" — 36" Chandler Hullers — Post and Pillow Block Ball Bearings — Conveyor Heads and Hangers — Enclosed Right Angle Drives — Elevator Belts, Buckets, Sprockets and Chain — Carver Lint Tailing Beater and Shaker — Brust Grabbot Machines.—Write, wire or phone Sproles & Cook Machinery Co., Inc., 151 Howell Street, Dallas, Texas. Telephone PRospect 5958.

FOR SALE—72-85" cookers, rolls, formers, cake presses and parts, accumulators-pumps, hull-packers, Bauer No. 153 separating units, bar and disc hullers, beaters-shakers, Carver linters, single box baleing presses, filter presses, expellers, attrition mills, pellet machines, pneumatic seed unloader. If it's used in oil mill, we have it. V. A. Lessor and Co., P. O. Box No. 108, Fort Worth, Texas.

OIL MILL MACHINERY FOR SALE—We have for sale 24 French hydraulic presses, 14 boxes each, seven-eighth inch plates; 2 French hydraulic formers; 1 set 12 ton high and low pressure accumulators; 2 French hydraulic pumps. All in A-1 operating condition. Delivery after January 1, 1952. Can be seen in operation at our mill this fall.—The Union Oil Mill, Inc., West Monroe, La.

FOR SALE—Oil mill equipment including Anderson expellers and French screw presses.—Pittock and Associates, Glen Riddle, Pa.

FOR SALE—Anderson RB expeller, Californin Extraction Co., Box 187, Norwalk, Calif.

FOR SALE—Bauer Bros. 199 seed cleaning unit 60" trays, French center drive 4 throw hydraulic pump, French cake trimmer..—V. A. Lessor & Co., P. O. Box 108, Fort Worth, Texas.

FOR QUICK SALE—Power: 1-300 h.p. water tube boilers, brick setting steel encased, steel smokestack. One Corliss steam engine 22" x 48" cyl., right hand. Motors: 4-2300V 3ph. 60 cy.: 300 h.p. 750 r.p.m. 24' x 42" with pulley, 75 h.p. 900 r.p.m. V-belt drive, 75 h.p. 1250 r.p.m. with pulley, 50 h.p. 900 r.p.m. with pulley. Linters: 18-Carver 106-saw high type frame duplex cylinders, 6 Continental, all with individual condensers. Filers: Carver 54 filer and 36 head gummer. Press: One double box, Cameron tramper. Separating: Carver 48" and 36" perfection hullers on Carver double shakers, two Bauer Bros double drum rotary beaters. Press Room: Eight French presses, 12-ton high and low pressure accumulators, French hydraulic pump, French former. Line Shaft: Size from 1-15/16" to 5 15/16". Cleaning: 60" seed cleaner. Misc.: Pulleys, etc.—Temple Cotton Oil Company, Little Rock, Ark. Ph. LD 86.

FOR SALE—One Davidson-Kennedy cake former. One Davidson-Kennedy six plunger high pressure pump. One Davidson-Kennedy low pressure pump. One Davidson-Kennedy accumulator. — Farmers Products Co., Inc., 442 Smith Ave., Thomasville, Ga.

Gin Equipment for Sale

FOR SALE—3 rebuilt 80-saw Murray gins, never been used. In factory crates. A bargain if you need three gins same as new.—Farmers Cotton Oil Company, Wilson, N. C.

ALL STEEL GIN BUILDINGS, any size. For immediate delivery in Texas.—Marvin R. Mitchell Construction Co., 1220 Rock Island, Dallas, Texas, Phone RAndolph 5615.

FOR SALE—Three Continental double x huller-cleaner-feeder extractors with after cleaners, size 70, model "C"—J. E. Little Estate, Conway, Ark.

FOR SALE—One all steel, center feed, Lummus bur machine. Practically new. Two Lummus all steel droppers. Factory reconditioned. 72" and 48". One set Lummus seed scales.—C. E. Dean & Co., 1317 Texas Ave., Lubbock, Texas.

CLEANING EQUIPMENT—We offer several batteries of Continental, Mitchell, Lummus, Gullett, and Murray Bilewitt Extracting Feeders. Also, two or three good wood and steel overhead bur machines. Can still furnish a few new "Government Type" tower driers, cross blow boxes, burners and other equipment for complete drying systems. Get our prices before buying.—R. B. Strickland & Co., 13-A Hackberry St., Tel. 2-8141, Waco, Texas.

FOR SALE—Good 4-80 Cen-Tennial in South Texas surrounded by fine cotton crops for miles in every direction. Should gin 4,000 or better this year. A real bargain at $35,000 half cash. Call me about this one. Also have a new 4-90 Murray in good area with fine crops. Will gin its capacity. Price $75,000 with 1/3 cash. Many other good buys that will make plenty of money this year.—Call, write or wire M. M. Phillips. Phone 3 1171 or 3-3914, Box No. 1288, Corpus Christi, Texas.

FOR SALE—60-saw Continental B. B. Wood mattress gin with hopper. Practically new. In first-class operating condition. Will take cotton or linters in trade instead of cash if preferred.—Sealy Mattress Company, 3841 East 37th St., Cleveland 15, Ohio.

FOR SALE—4-80 saw loose roll Commander air blast, huller breast gins with air noxzles and flexible connections. Also one extra 80-saw cylinder and 9" and 10" pulleys for 40" and 45" Sturtevant fans.—Roche Mfg. Co., Dublin, Ga.

FOR SALE—Five 60" standard pressed steel V-belt Mitchell machines with burr suction line. 60" all steel Hardwicke-Etter condenser. One 45 h.p. Buda natural gas cotton house unloading unit.—Doyle K. Stacy, Allen, Texas.

EXTRACTING EQUIPMENT and other good items now on hand. One 14 foot Hardwicke-Etter wood frame bur extractor with inlet and return conveyors, reconditioned. Five 60" standard Mitchell V-belt driven pressed steel extracting feeders. Four 66" Continental Double X, model D extracting feeders. Four 80 saw 6" mote conveyor Murray steel gins. One Murray "PH" steel bound up packing press. One Hardwicke-Etter double hopper seed scale. Tell us your needs and get our prices before buying.—R. B. Strickland & Co., 13-A Hackberry St., Tel. 2-8141, Waco, Texas.

AUTOMATIC gas heaters delivered and installed in your gin plant. See advertisement on page 65 this issue.—Service Gin Co., P. O. Box 21, Ville Platte, La.

FOR SALE—One Mitchell 6-cylinder Jembo, combination extractor, drier, and cleaner, 4-80 Continental model "C" A.B., D.C. air blast gin with model "30" fronts lint flue. Four 66" cast-iron head standard Mitchells. One 10' 6-cylinder, all steel after cleaner. One Hardwicke-Etter 11-shelf stub tower drier with 5-cylinder steel after cleaner, drier, burner, and fan. Three 14' Hardwicke-Etter wood bur machines with by-pass conveyors. One American steam hydraulic pump. 5-80 Continental S. and A.R. model "P-3" gins with roll indicators, factory rebuilt and painted at the Continental Gin Co., Dallas, with lint flue. Two 48" Continental cast-iron fans reworked and repainted. Two steel bound Continental Paragon presses with channel iron side supports, square center column, center crank door opener, and counter-balanced doors. One Murray tramper. Five 60" Hardwicke-Etter huller feeders. One Continental vacuum box. Six 80-saw A.B., D.C. all steel Cen-Tennial commandor gins with lint flue. Four 80 D.C. model "C" Continental brush gins. One 72" Murray wood condenser. Five 60" Continental triple-X huller cleaner feeders. Five 80-saw Murray gins with glass fronts and 6" mote conveyor, lint flue. One 72" Continental impact cleaner. One 8-cylinder steel inclined Wichita cleaner. One 50" Lummus multi-blade fan.—Bill Smith, Abilene, Texas, Box 694. Phones 4-9626 and 4-7847.

GOOD USED and reconditioned machinery, plenty of it in Waco stock and at other points. A few of many good items on hand are listed below: Munger, Murray, Lummus and Gullett gins. CONDENSERS: 50" Murray steel. 72" Continental steel. 60" Lummus steel, wood frame. Several good presses, hydraulic rams and casings, hydraulic pumps, a large stock of new and used fans, conveyors, belting and transmission equipment. Tell us what you need. We probably have it, and for less.—R. B. Strickland & Co., 13-A Hackberry St., Tel. 2-8141, Waco, Texas.

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To better serve the Southwest cotton industry we now pick up and deliver FREE any equipment for sale or repair. Don't be shut down! Call us and we will deliver a loan motor to your plant free while we repair your equipment in our shop.

To further our aim to give fast and dependable service, we have established a motor repair shop at Harlingen, Texas.

Take advantage of factory-trained men, large copper wire availability, expert machinists, accurate balancing and testing equipment. Our facilities are as close as your telephone, and no more expensive than if done in your city.

Partial list of motors we have for immediate delivery:

1—300 hp. 3/60/2300/600 rpm, slip ring
1—250 hp. 3/60/440/600 rpm, slip ring
4—200 hp. 3/60/2200/900 rpm, slip ring
6—200 hp. 3/60/440/900 rpm, slip ring
4—150 hp. 3/60/2300/900 rpm, slip ring
2—150 hp. 3/60/440/900 rpm, slip ring
3—125 hp. 3/60/440/900 rpm, slip ring
2—125 hp. 3/60/2200/900 rpm, squirrel cage
2—125 hp. 3/60/440/900 rpm, slip ring
1—100 hp. 3/60/2200/900 rpm, squirrel cage
2—100 hp. 3/60/220/900 rpm, squirrel cage
4—100 hp. 3/60/2200/900 rpm, slip ring
2— 75 hp. 3/60/440/900 rpm, slip ring
2— 75 hp. 3/60/220/1200 rpm, squirrel cage

Fan and Press Pump motors and all other ratings in stock.

CALL ON US — DAY OR NIGHT — ANYWHERE

Complete starting equipment available for above motors.
Free rental while we repair your motors.

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Phone HUnter 2801 DALLAS — TEXAS — Phone 3905 HARLINGEN

FOR SALE—One all steel 2-80 saw Continental gin outfit. All steel down packing press with E. J. tramper, all steel down discharge condenser, conveyor distributor, 4-cylinder overhead cleaner, 2 trough Continental dryer with propane burner and 1,000 gallon above ground tank with vaporizer. Two all steel 80-saw Continetal gin stands—brush —new ribs. Continental's large 4-X feeders. 4-cylinder 100 h.p. 7 x 9 Minneapolis-Moline engine direct connected to gin. Good price on this outfit. This gin ginned 100 bales since complete overhaul and is in perfect condition.—Contact, P. O. Box 346, Ripley, Tenn.

WE OFFER—A complete cotton gin near Fort Worth. Owner's son gone to the army. Will sell on contract or consider a trade. Write for details. —Soder Southwestern—Realtors, 312 Hightower Bldg., Oklahoma City, Okla.

Equipment Wanted

WANTED TO BUY—A two bale customer seed hopper, with supports. — The Stephenson Gin., Eudora, Ark.

WANTED — Double leather drive belt eighteen inches by forty six feet.—T. T. Harrison, P. O. Box 695, Littlefield, Texas.

Personnel Ads

HELP WANTED—Ginner for new Murray-Mitchell Supers and Super gems who can assume responsibility for operation and help. Four room modern house furnished. Year-around job. Good schools. Also four ginners for night jobs, starting September 1st. Give references.—Box 548, Artesia, New Mexico.

WANTED—Night superintendent for 16 press hydraulic oil mill. Applicant must be strictly sober and reliable. Permanent job to right party.—Write P. O. Box 895, Pine Bluff, Ark.

HAVE OPENING for two gin managers in irrigated section of West Texas. These are permanent year around jobs with a large company. Write stating education, experience, references, and salary expected.—Box "BE", c/o The Cotton Gin and Oil Mill Press, P. O. Box 444, Dallas, Texas.

Power Units and Miscellaneous

ALL STEEL BUILDINGS for cotton industry—warehouses, cottonseed houses and gin buildings. —Marvin R. Mitchell Construction Co., 1220 Rock Island, Dallas, Texas. Phone RA-5615.

FOR SALE—New and rebuilt Minneapolis-Moline power units in stock, all sizes. Sales, parts and service, day or night.—Ft. Worth Machinery Co., 1123 East Berry, Ft. Worth, Texas.

FOR THE LARGEST STOCK of good, clean used gas or diesel engines in Texas, always see Stewart & Stevenson Services FIRST. Contact your nearest branch.

FOR SALE—One 40 h.p., 220 volt, 900 r.p.m., three-phase electric motor with starter switch. One 60 h.p., 220 volt, 1800 r.p.m., three phase electric motor starter switch. One 125 h.p., 2300 volt, 900 r.p.m., rebuilt slip ring electric motor with sliding base and starter equipment. One 30 h.p., 2300 volt, 1800 r.p.m., sliding base and starting equipment.—Bill Smith, Abilene, Texas, Box 694. Phones 4-9626 and 4-7847.

FOR SALE—Immediate delivery, two 350 h.p., 225 r.p.m., Bruce-McBeth natural gas engines, installed new in 1920, completely reconditioned 1941, excellent condition, complete with 450 h.p. Hill Clutch and rope sheave, $6,000 each or $11,000 for both, f.o.b. installation site, Wichita Falls, Texas. —C. W. Wallace, Jr., P. O. Box 899, Wichita Falls, Texas.

FOR SALE—Immediate delivery any weight or width filter cloth or paper, numbered Duck, Filter Twills and Chain cloth.—S. A. Orrell, P. O. Box 2351, Memphis 2, Tenn.

FOR SALE—One Fairbanks-Morse fuel oil engine, 110 h.p., model 32-G-12, style V.A., 360 r.p.m. Complete with air tanks and compressor.—Write Box 22, in care of The Cotton Gin and Oil Mill Press, P. O. Box 444, Dallas, Texas, or phone TEnison 9253, Dallas, Texas.

FOR SALE—Separately—165 horse power, Bessemer natural gas engine complete, also 15 horse power 3-phase motor, both top condition, consider any offer.—Gus Hartman, Rockwall, Texas

FOR SALE—Electric motor 25 h.p. Heavy duty 200 h.p. clutch. 70—4 inch by 18 foot real good boiler tubes. 50—4 inch by 16 foot boiler tubes good for construction use. 4-80 saw Cen-Tennial commander air-blast gins with lint flue connections good condition—cheap.—T. T. Harrison, P. O. Box 695, Littlefield, Texas.

POWER—One 120 h.p. and one 80 h.p. Fairbanks-Morse, type "Y," style "VA" diesel engines, both with equipment, on foundations, in good operating order. One model RX1, 100 h.p. LeRoi power unit, gasoline engine starter, fully equipped. One 35 h.p. Minneapolis-Moline 4-cylinder power unit, steel housing, electric starting systems, etc. One 60 h.p., 2200 volt, 865 r.p.m. slip-ring motor with starting equipment. One 50 h.p. G.E., 220 volt, 1200 r.p.m. squirrel cage motor. 440 volt G.E. motors with starters: one 100 h.p., 900 r.p.m., one 10 h.p., 900 r.p.m. and one 15 h.p., 1750 r.p.m. New Buda engines available.—R. B. Strickland & Co., 13-A Hackberry St., Tel. 2-8141, Waco, Texas.

FOR SALE—Various items, new H 78 and H 82 drag chain with attachments every fifth link and sprockets, roller chain and sprockets, V-Belts and sheaves, bearings, all types and sizes; leather and rubber belts, conveyor and trough, fabricated steel bins, etc.—S. A. Orrell. P. O. Box 2351, Memphis, Tenn.

Cotton Insect Situation

(Continued from Page 44)

injuring some cotton near Monroe, Shelby and Warrenton.

• **Oklahoma**—Webworms were the No. 1 cotton insect in Oklahoma as of June 30. They were reported as being present over the entire cotton growing area of the state, with many fields showing severe damage.

First brood of 1951 weevils was expected during the first week in July. Of 331 fields examined in 43 counties, 143 fields in 37 counties were found to be infested. Choctaw County had 2,100 weevils per acre, and heavy infestations were found in Okfuskee, Okmulgee, Love, McCurtain, McIntosh and Tulsa Counties.

Light infestations of thrips were found scattered throughout 11 counties, but only three had medium to heavy infestations. Scattered aphid infestations were reported.

• **South Carolina**—General average of square infestation by boll weevils in South Carolina as of June 18 was between four and eight percent, with some counts as high as 25 percent. Average number of weevils in southern and eastern counties was 129 per acre.

Outbreaks of bollworms were reported in scattered areas. Cocklebur and cowpea weevils were identified in some fields. All northwestern counties reported fleahopper damage.

• **Tennessee**—Boll weevils were found in three of 42 fields examined in nine counties by June 16, with the average rate of 83 weevils per acre in infested fields and six weevils per acre for all fields examined. Thrips were more prevalent, being reported in 29 of the 42 fields, but only three heavy infestations were found. Forty of the fields were infested with aphids and 34 showed aphid damage. Tarnished plant bugs, rapid plant bugs and other insects were also found in the state in one or two fields.

• **Texas** — Most important and widespread insect outbreaks as of July 3 were of armyworms and webworms, which were causing considerable damage in central, northcentral and northwestern parts of the state. Several thousand acres of cotton were reported to have been totally lost to these insects, particularly the webworm, around San Angelo, Sweetwater and Lubbock. The yellow striped armyworm has been the primary pest in central and north central Texas.

Boll weevil populations were well below the damage point in some areas and in most fields, although many unpoisoned fields in the upper coastal and East Texas areas had high weevil infestations. Average square infestation in 1,095 fields in the boll weevil area was 11 percent, as compared with 21 percent at that time last year. Thirteen percent, or 138 of the fields, had weevil infestations above 25 percent.

Fleahopper infestations were mostly low except in spotted areas of South Texas. Only six percent of the fields averaged above 25 fleahoppers per 100 terminals.

Scattered injurious bollworm populations had developed in some south-central, central and eastern counties, but in most instances beneficial insects were present in sufficient numbers to keep them under control. Serious infestations were found in Red River and Bowie Counties.

Red spiders were causing trouble in some fields from the Coastal Bend to Brazos and Burleson Counties, and a few injurious infestations were found in central Texas. Aphids have been scarce throughout the state.

No leafworms had been found in Texas or other states this year.

Early in June USDA reported that pink bollworm populations were higher than at that time a year ago in several South Texas counties, with heaviest infestations in Nueces, Calhoun and San Patricio Counties. Fewer pink bollworms were found at that time in the Rio Grande Valley area. Up to the last week in June, pink bollworms continued to appear in fairly large numbers as far north as Calhoun County, but none had been found this year in central Texas or in counties outside of the previously infested territory.

• **Virginia**—A four percent boll weevil infestation in Greensville County, Virginia, was reported June 22. No weevils had been found in other counties.

John Covington Is Injured In Fall at Greenville, Miss.

John Covington, who was injured in a fall at the Planters Oil Mill, Greenville, Miss., about the middle of June, is reported to be "doing nicely," although he is still in a hospital in Greenville.

Mr. Covington is the son of H. E. Covington, president of Mississippi Cottonseed Products Co., oil mill operator at Jackson, Miss., which owns the Planters Oil Mill at Greenville.

J. E. Byram, Sr., Improves Following Heart Attack

J. E. Byram, Sr., president of the Red River Cotton Oil Co., Alexandria, La., is reported to be very much improved following a heart attack on June 21.

Mr. Byram was visiting friends in St. Joseph, La., when he was striken. He was moved to a hospital in Vicksburg, Miss., the following day. Although still in the hospital, he expects to be able to return home before the middle of July.

TIMELY TIPS

On Livestock Feeding

• **Hot Weather Pointers**—Provide plenty of cool, fresh water for all types of livestock. Livestock won't drink enough water if it is hot and stale. Plenty of good water helps avoid summer production slumps in milk production.

Hot weather brings flies, and flies reduce production and gains. Control flies by spraying with a mixture of four pounds of methoxyclor to a 50 gallon barrel of water.

Hot, dry weather burns up pastures. Milk production and gains go down unless supplemental feed is provided. When pastures are dry, dairy cattle need more suplemental protein. Provide it by increasing the cottonseed meal in the grain mixture.

When pastures don't furnish enough total volume of feed, some harvested roughage is needed. Cottonseed hulls or hay are both satisfactory for this purpose. Silage is especially desirable to feed dairy cattle when green pastures are not available. It is often a good plan to mix silage and cotonseed hulls, half and half, for cattle and sheep feeding.

Overheated animals are inefficient in feed use and often don't have good appetites. Good shade is good insurance against poor summer production and poor feed utilization.

• **Avoid Runts in Fall Litters**—The time to prevent runts in fall litters is right now. Adequate feeding of bred sows and litters helps develop the unborn litter and maintains the sow in best condition to produce plenty of milk when the litter is farrowed. Good young, tender pasture furnishes good quality feed containing needed vitamins and minerals and aids sanitation. Feed enough concentrate mixture to keep sow in good condition without fattening. Be sure the concentrate has enough protein.

A good protein supplement for hogs of any age or class is: 40 pounds of cottonseed meal, 40 pounds of tankage (or other animal protein) and 20 pounds of alfalfa leaf meal.

In addition to good feeding, pigs must be free of parasites and diseases. Farrowing in clean houses and using rotated pastures help avoid troubles. Efficient insecticides and drugs should be used carefully when flies, lice, mange or worms infest the herd.

• **Hog-Down Corn for Labor Saving**—It is not too late to make plans to hog-down a part of the corn crop. Hogs will do as well as when hand-fed and they save the labor of harvesting and feeding.

Protein supplement is needed just as much with hogging-down as when corn is hand-fed. The Virginia Experiment Station found that when protein supplement was fed to hogs used to harvest corn and soybeans, 25 pounds of supplement produced 36 pounds of extra gain.

• **Fatten Cattle Efficiently**—Price ceilings on fat cattle make it even more important that fattening rations be efficient. Plenty of protein increases gains and finish and reduces costs. When used in amounts needed to balance rations for fattening steers, one pound of cottonseed meal will save two to three pounds of grain.

• **Make Plans Now to Store Roughage for Next Winter**—Last winter's poor pasture season emphasized that cattlemen can't depend on pasture alone. Plan now to have a reserve supply of cottonseed hulls, hay, bundles or silage. With a large cotton crop in prospect, many cattlemen will find it profitable to depend on cottonseed hulls for liberal roughage feeding next winter.—*Educational Service, National Cottonseed Products Association.*

Mozambique Is Short of Vegetable Oils

A slowly rising shortage of edible and inedible oils was the most significant development in the vegetable oilseeds and oils situation in Mozambique during 1950.

This deficit, both in the form of edible oil and as an essential commodity for the manufacture of laundry bar soap, occurred during the second half of 1950. Although this condition was considered temporary at the time, no apparent improvement appears likely as long as the controversy over the proposed industrialization of Mozambique's oilseeds and the nuts remains unsettled. According to available information, the local government thus far seems unwilling to increase the quota allocations which would enable the soap and oil factories to process larger quantities of raw materials.

In the five-year period ending Dec. 31, 1949, Mozambique produced around 64,750 tons of vegetable oils, both edible and inedible. In 1948 and 1949 the production of peanut and coconut oils suffered as a result of the unavailability of raw materials. The high prices of Mozambique copra prevented local oil producers from buying sufficient stocks of copra for the operation of their factories over and above the copra quotas officially allocated to them by the local government.

In 1948 and 1949, Mozambique exported 9,943 and 7,165 tons of vegetable oils, respectively, compared with 11,062 and 10,327 tons in 1946 and 1947. In spite of the drop in exports, the local oil industry was able to obtain higher prices in 1948 and 1949 than in the two preceding years. In both 1948 and 1949 more than half of the total quantity exported consisted of inedible coconut oil, the Union of South Africa and the U.S. being the chief destinations. Edible peanut oil, mainly to Portugal and Portuguese colonies, made up most of the remaining exports.

Of the total volume of vegetable oilseeds and oils produced in Mozambique during 1945-49, approximately 65 percent was actually exported, leaving the remainder for local consumption. On the basis of production less exports, the average annual domestic consumption of oilseeds during the five-year period under review, both for industrial and edible purposes, amounted to about 9,000 tons. On the same basis, average consumption of vegetable oils, both edible and inedible, was around 4,500 tons.

Canada's Production of Margarine Increases

Canada's margarine production during the first quarter of 1951 was 30.2 million pounds, compared with 27.7 million for the same quarter in 1950.

Although this represented an increase of more than nine percent, a much larger increase of almost 32 percent was registered during April, 1951. During this month production reached 9.5 million pounds against 7.2 million the year before. Thus for the first four months of this year Canada's margarine production was 39.8 million pounds compared with 34.9 million in 1950. Total Canadian margarine output during 1950 amounted to 94,032,000 pounds. The manufacture and sale of this product in Canada first became legal in January 1949.

USDA Restricts Oilseed Imports in New Order

Defense Food Order No. 3 restricting importations of flaxseed, flaxseed screenings, linseed oil, rice and rice products, effective July 1, has been announced by Secretary of Agriculture Charles F. Brannan.

For several years, these commodities have been subject to the import controls of the Agriculture-Import Order, previously War Food Order 63.

The USDA announcement also stated that licenses will be granted only for the importation of certified or registered seed flax for planting purposes only, flaxseed screenings for other than for crushing for oil, and brewers rice.

Department officials stated it is necessary to restrict importations of the commodities listed in Defense Food Order No. 3 in the interests of national defense. The action is designed to prevent the diversion to the U.S. of a supply of these commodities needed by the countries associated with us in the present international emergency. Also imports of these commodities are not now needed in the U.S. and would needlessly tax transportation and distribution facilities required for defense purposes. Officials also emphasized that the importation of certain of the specified commodities would discourage domestic production and possibly result in dependence of the U.S. on foreign sources of supply.

Applications for licenses under Defense Food Order No. 3 should be addressed to the Director, Fats and Oils Branch, Production and Marketing Administration (Ref: Defense Food Order No. 3), USDA, Washington 25, D. C.

Kelloggram Describes Shelly Modernization

How Skelly and Kellogg engineers completely modernized and expanded the Skelly Oil Co. 25-year-old refinery at El Dorado, Kan., is covered from the inside by flow diagrams and on the outside by pictures in Kelloggram No. 1 (1951) just issued by the M. W. Kellogg Co., refinery and chemical engineers of New York, N. Y.

The modernization itself had two phases: first, the addition of new processing facilities consisting of crude distillation and fluid catalytic cracking, and second, the revamping of several process units, including two thermal crackers, the vacuum flashing system, the vapor recovery system and the catalytic polymerization plant.

An interesting sidelight on the modernization, states Kellogg, is the fact that, while units requiring revamping were shut down from time to time during the work, sufficient productive capacity was always kept available to keep gasoline flowing to the market.

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Engineering in Agriculture

(Continued from Page 20)

many motor trucks on the farms today as there were 10 years ago. Today, 90 percent of our farms—almost five million of them—are supplied with electric energy. Almost three million farms have been added to the electrified list since 1940—two million since the end of World War II. And, on the average, consumption of energy measured in kilowatt hours on these electrified farms has almost doubled in a decade. In other words, farmers are finding just about twice as much use for electricity as they did 10 years ago. Farmers today have 19 billion dollars invested in almost 38 million farm buildings. Add to that the fact that expenditures for farm buildings—including both new construction and repairs—are expected to total two billion dollars for this year because of this demand for greater production.

These are the changes that have taken place in just the last few years that have made it possible for today's farmer to accomplish 50 percent more for every hour he spends at work than he did in 1937.

Consider this engineered agriculture in terms of family living. In this country our standard of living is often hitched to our ability to produce efficiently, and the fact that agricultural engineering is supplying our farmers with the tools and methods that enable him to produce more efficiently allows him to compete successfully with the workers in other industries who, through engineering, are producing more and more with an hour of work. The standard of living of our farm families depends on their ability to produce efficiently.

I mentioned a moment ago that about 15 percent of our people are providing the food for themselves and the other 85 percent of us. To me, that is the measure of the successful engineering of our agricultural industry. In many countries, where poverty and famine are commonplace, 85 percent of the population is on the farm attempting to scratch enough from the soil to feed and clothe themselves and the remaining 15 percent.

• **One Way to Counteract Weather** — Weather, of course, is a tougher nut to crack, and I don't suppose we'll ever get to the point where we can quit worrying about what Mother Nature is going to precipitate on us on the morrow. We've had some good weather during these years when we've needed top farm production, but I'd venture far enough out on the limb to say that engineering has made good weather even better for us, at least in terms of final production. In fact, if we had been farming these last five or 10 years as we were 20 years ago, we might not have considered our weather so good and the war outcome might have been different. Let me quote from Wallace's Farmer and Iowa Homestead. Many of you may have seen this brief write-up that appeared as the coverpage text of their April 21 issue, but you may not have read into it the meaning that I did. To me, it points up how we are learning to take the weather and its idiosyncrasies in our stride.

"Some years," the article says, "a farmer starts his field work in late March, gets his oats in by April 5, and has the rest of the month to plow, disk, harrow for corn. That doesn't seem to happen any more.

"This March was cold and wet. So was every March for the four preceding years. And this April started out cold and wet, too. A lot like 1947.

"We work while the ground's dry," says one farmer. "When it rains, we catch up on sleep."

"It's day and night work, with the tractors going steady and tired men trying to stay awake at the wheel.

"Ten or 15 years ago, farmers could be licked by a wet, cold spring. Now, modern machinery, plus farm drive, may pull a bumper crop out of a backward season."

This brief quote indicates how engineering is helping tame the weather during planting season. But consider its many other year-around weather beating applications.

Irrigation and crop management are helping to beat the weather through the growing season, and harvest time no longer holds the fear for the farmer that it formerly did.

Mow curing of hay is an engineering application to harvesting that is slowly but surely, year by year, eating up the big loss of forage quality to bad weather. Dairy scientists claim that enough protein is lost from the forage crops every year to supply 7½ million dairy cows with their normal protein requirements for six months. That is a fight for feed quality that our farmers are winning a bit each year, as more and better pick-up balers, field choppers and blowers, improved silos and barn mow hay driers make their appearance. In 1944, there were only 63 mow driers. Last year, just six years later, there were more than 7,000 of these engineered crop conditioners, capable of taking a crop of alfalfa or clover in almost any weather and drying it to storage condition without appreciable loss of feed value.

What mow driers are doing for forage crops, grain driers or conditioners are doing for small grain and corn. Dehydration principles are being engineered to fit many farm needs. The field corn sheller is in limited production; however, mass production of the field sheller awaits the wide application of drying or conditioning facilities for the higher moisture of field shelled corn. Refrigeration, too, is being applied more and more to the conditioning and storage of perishable farm products, such as fruit, eggs and meat. Engineered farm structures are providing better protection against rodents, insects and other pests, as well as protection from the weather.

This year's badly needed corn crop furnishes us with a good example of how engineering can help us meet emergency goals. Mechanized, precision plantings of better yielding, late maturing hybrid varieties of corn are being protected through the growing season from weeds with cultivators, flame weeders and herbicide sprayers, and from borers and ear worms with low gallonage insecticide sprayers. Today corn is a crop that is rapidly harvested in the fall with a corn picker—the field sheller is coming into prominence more and more—it is hauled to engineered farm storage in trucks or wagons and elevated into the storage with electric or tractor power—and then dried down to the correct holding moisture content with grain driers. Could the job be accomplished otherwise? I doubt it.

We don't know what the weather man is going to throw at us this year or next year, but we can expect agricultural engineering to help us meet whatever he has to offer.

• **Engineering Protects Investments** — The story of engineering's value to agriculture today can be just as strongly told by briefly outlining a few of engineering's many investments in agriculture:

1. The ownership of farm land that today represents a tremendous investment of 45 billion dollars is the obvious starting point. Land is one of the very few sources of new wealth. It represents an investment upon which interest must be earned in order to maintain our agricultural economy. From another angle, land is like a bank account in that if one continues to draw out he must also arrange to do some depositing. Poor farming practices, lack of maintenance of soil fertility and erosion, are continually reducing the fertility of the soil, while proper crop rotations, good fertilization, control of wind and water erosion, all tend to maintain or even improve the earning of our farms.

One of our leading southern editors has recently pointed out that rich soil builds a rich civilization. India, China and many other countries squandered their soil—the farmer's and nation's capital stock. Early American farmers—and I had two grandfathers in that group—farmed recklessly, moving to new land as their farms washed away. Agricultural engineers who are developing the underlying principles of soil and water conservation, of irrigation, drainage and flood control, of terracing and soil building practices, and those engineers who are putting these principles to work in a practical way, are helping to stabilize our farm values for future generations. Nothing can be more important in conserving our ability to produce new wealth. These engineers, through cooperation with other scientists, have developed techniques for keeping our soil and water under control that were unknown a half century ago. As a result, today's farmer "is plowing some of his surplus earnings back into the soil" in the form of structures for water run-off control, fertilizer and humus. The farmer now appreciates that he is a custodian or steward of the soil. He uses it, yet maintains it in good condition for succeeding generations.

2. Farm buildings include eight million dwellings housing over 27 million people; also 6½ million barns and between 22 and 23 million other permanent structures housing some 26 million cows, 60 million hogs, 625 million poultry and large numbers of other livestock. Farm buildings provide seasonal storage for some five billion bushels of grains, 50 million tons of hay and 40 million tons of silage. A large part of the 500 million bushels of potatoes, sweet potatoes, apples, pears and other late vegetables and fruits is stored on the farm or in com-

NCPA Picks New Orleans For 1952 Meeting

Directors of the National Cottonseed Products Association have voted to hold that organization's fifty-sixth annual convention at the Roosevelt Hotel in New Orleans on May 19-20-21, 1952, Executive Vice-President T. H. Gregory has announced.

The association's Rules Committee will meet in New Orleans May 16-17.

munity storages controlled by farmers. The continued extension of combine harvesting of wheat, corn, soybeans, forage seeds, cotton, rice, peanuts and other crops emphasizes the need for early drying or conditioning and storage of our crops to maintain high quality for controlled marketing.

3. Farmers' investments in production tools or farm machines and tractors is close to 12 billion dollars. Such equipment includes four million tractors and millions of machines for operations ranging from seedbed preparation to recovering the crop at harvest time and often crop residue disposal for all cereal crops, forage, fibers, vegetables, fruits and nuts. It includes plant control equipment; that is, tools for fertilizer placement to increase yields, for weed control, insect pest and plant diseases. There are approximately 350 million acres used for our 52 principal crops. Of this huge area, 300 million acres are in cultivated crops and the balance in forage crops.

4. The farm electrification industry is an 11-billion-dollar business today. This figure is not comprised entirely of farmers' investments but includes generating facilities and transmission lines, farm wiring and electrical equipment. Refrigeration of cold storage facilities in warehouses, transportation facilities and metropolitan storages might well be added because by far the largest use of refrigeration is to keep farm commodities—plant and animal products—in good condition. Electric energy is now available to more than 4¾ million farms, of which two million have been added since the end of World War II. Most of the present uses of electric energy on farms are adaptations of application developed for industrial and urban uses. Research in applying electrical energy, light, power, heat and radiation is bringing many new applications to agriculture.

5. Other important engineering investments in agriculture are the facilities of agricultural industries and services. These include those for farm service and supply plants, such as feed mills and hatcheries; farm service operations, such as for heavy duty contract work; marketing services and facilities; crop conditioning and storage; and processing plants for foods, fiber and building materials. There are hundreds of plants for handling milk, cheese and other dairy products; canneries and locker plants; dehydration plants; poultry processing plants; meat processing plants, cotton gins and similar establishments. You can readily see that agricultural engineering serves not only in agricultural production on the farm but in the industries supplying goods and services to the farm and in the processing and marketing of agricultural commodities.

What I'm trying to say to you is that engineering the agriculture on our farms today is of such great importance that its implications must be in your consciousness in all of your work.

• **Possibilities — Not Dreams** — I've told you how engineering has helped revolutionize today's agriculture. Now, let me give you an inkling of some of the future possibilities of engineering research. I'm not speaking of a dreamy future of 50 years hence, but of applications of engineering that may be as commonplace on our farms 10, five or even a year from now as has become the milking machine or the pick-up hay baler in the past 10 years.

Briefly, here are some of our goals—the goals of agricultural engineering research—that we expect to see fulfilled in the years ahead:

1. We expect to develop and improve farm practices and machines to produce with fewer man hours per bushel or bale and with due regard to soil and water conservation. Our present research in this field inciudes fertilizer placement, like that, for example, that last year boosted Michigan onion yields 20 percent over grain drilled fertilized plots. The fertilizer placement project, cooperative with the Michigan Station, has been very productive. Weed sprayers and dusters that became prominent with the advent of 2,4-D are being continually improved through research, to apply definite patterns of coverage. This year our engineers are undertaking studies of the corrosive effect of some of the newer insecticides to determine what materials can best be used in constructing sprayers and dusters. Our engineering research with nozzles, booms, pumps and pressures is reducing the gallonage of mixture needed per acre so that farmers will be able to do a more accurate and quicker job of spraying. Further work with fungicide sprayers is in the application of aerosol principals. Fungicide is released from an aerosol and blown onto the plants through spreader nozzles, and at pressures that can be varied quickly from 10 pounds to as much as 400 pounds per square inch.

Continued research with aerial dusting, spraying, fertilizing and seeding is leading to the development of an agricultural airplane cooperatively with the Civil Aeronautics Administration and Texas A. & M. College—a machine designed

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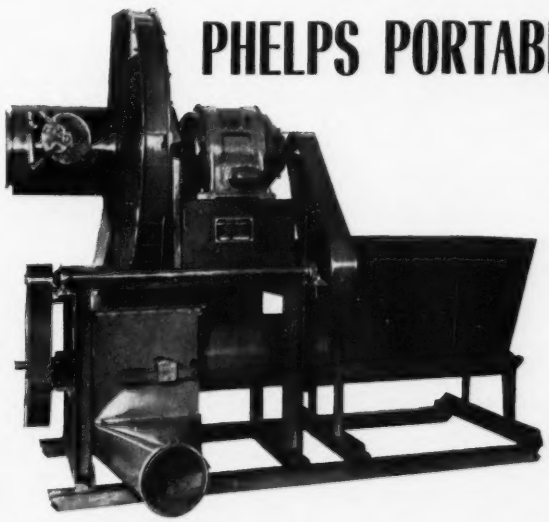

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specifically for the farm job. Today's farm airplanes are war surplus or pleasure craft, not designed for farm speeds, elevation or the air slip stream. No factors are uniform.

Research with beet planters—here in Michigan with the Michigan Station, as well as in other states—will be providing us with a planter that produces more uniform seedling stands that are easier to thin mechanically. And we are also developing a mechanical thinner that, in experimental tests, has eliminated 40 percent of the hand labor without decreasing beet yields. Our eventual aim is a machine that will plant so precisely there will be no need for thinning. Our engineers in Minnestota, North Dakota and Maine are working on potato machinery that will successfully separate potatoes from clods and dirt in the field, without damage to the potatoes, and provide for better bulk handling of potatoes from field to storage. We are envisioning the use of small power units on potato harvesters, as well as other machines, that can be easily moved from one machine to another. Such a trend would be particularly welcome to the small acreage farmer who would then in reality have several self-propelled machines operating from a single power unit.

2. Harvesting machines to recover the highest possible part of the crop produced is work that is continuing, as is evidenced by the fact that this part of the country is becoming almost completely mechanized. However, in the South many of our most important crops are still harvested primarily by hand. We have made tremendous progress in mechanizing cotton production, for example, but there is still much work to be done. This project has the attention of most cotton-growing states from California to North Carolina. In Mississippi we are developing methods and procedures to pick up, hull and bag tung nuts, a valuable oil crop. Last year we developed a peanut harvester cooperatively with Georgia and Alabama Stations that will be commercially manufactured this year. It not only has removed as much as 35 hours of hand labor work per acre, but has taken much of the weather problem out of peanut harvesting.

Sugar cane harvesting, also a largely hand-labor job, is being given considerable attention, and it should not be too long before sugar cane growers will have a practical mechanical harvester that will increase their efficiency to the point where they can cut and deliver stripped cane from the field to the mill in the same day.

Right now, our engineers are working on guayule production. This project is located in Texas and Oklahoma. Guayule, as you know, is the rubber plant that we are taming to American weather and production methods.

3. Structures to reduce chore labor, conserve feed—the fresh quality of agricultural products—and to prevent waste. Buildings continually get the attention of our research engineers. Our architects are constantly working to make farm homes more livable and more attractive. Expansible homes, that allow a young farm family just getting started to have an attractive, serviceable home within their means, and yet easily add to it with a minimum of remodeling as the family and income increases, are a development of our research architects. Another important development in farm buildings is the self-reading feature of building plans. The farm family has time to do much construction work. The new plans enable them to do much of this work.

Work in Missouri and California, and at our Research Center in Beltsville, Md., to find out just what housing conditions are really best for livestock is taking into account the complete physiology of the animals. From this work is coming definite data concerning the construction and ventilation of dairy barns, hog houses, poultry houses, and the design of beef cattle shelters.

Grain and corn drying or conditioning is another research project of our structures engineering that is bearing fruit. Improved features of driers to provide low cost, faster and more trouble-free drying are moving from research to the farms. Fruit and potato storage is also being improved through research as are the actual construction features that go into farm buildings.

One of the objectives of our research agricultural engineers is to provide the farmer with conditioning and storage facilities to (a) increase on-farm storage and (b) enable him to market at his convenience rather than have to dispose of his commodities on a flooded market at harvest time.

Some of the other changes anticipated by our farm structures division include the use of the sun's energy for heat and power sources in buildings, and more flexible buildings made up of lightweight panels or three dimensional units that can be easily put up or taken down and moved as needs change. You may someday find it common practice for a farmer to change his barn to a poultry house in a matter of a few hours.

Push button feeding and care of livestock is on its way. Right now we are working in Illinois to perfect a feeding arrangement that will grind and mix feed and add small amounts of supplements and minerals with only a touch of a button or flip of a switch.

Research is leading us toward better building environments—homes that provide temperature, light, moisture and air purity conditions that make it springlike the year around. Improved sanitation and ventilation around the farm buildings will take away the odors that too frequently are associated with livestock housing.

Research with light-weight concrete, here at Michigan, and stabilized soils is destined to eliminate mud around the farmstead, and materials that eliminate or reduce painting, making for easier maintenance and cleaning, are very real future possibilities.

4. Effective use of electric energy about farm and in the home. Electric energy is playing an increasing role in agriculture. Lights are being studied as to their location, intensity and color for various purposes. Radiant heat has been used for some time in protecting young animals—chickens, pigs and lambs, especially. Infra-red lamps have been used experimentally for frost protection in orchards, for drying apples that have been dipped in wax and for drying seed and grain. A commercial drier using these lamps has been developed for grains. However, in general, the use of electric heat on the farm has not attained the success it has in industry. Electric lamps and traps are under investigation as a means of controlling some of our destructive night flying insects. The electric motor is ever present to take over the numerous chore jobs around the farm.

Radio frequency may have many valuable agricultural applications. The New York Experiment Stations and the U.S. Western Regional Laboratory are investigating its use for blanching; California is studying it for control of bacteria. It is possible the use of radio frequency may stimulate plant growth.

One of the new challenging applications of electric energy is ultrasonics. Reports in both scientific and popular magazines have indicated startling possibilities, including such things as pasteurizing and homogenizing milk in a single operation, increasing the viability of seeds, electric seed selection and killing or controlling undesirable enzymatic action in vegetable commodities. Actually engineers do not know what ultrasonic energy will do. Some preliminary investigations, however, have been started at our laboratory at the U.S. Agricultural Research Center at Beltsville, Md., and we hope that this exploratory work may lead to many valuable uses. We think our research toward the electric selection of seed based on its viability has especially good possibilities.

5. Transportation to deliver farm products to market without waste and in near-farm conditions. This is a wide-open research field that needs much concentrated effort, especially during this emergency period. Considerable work has been done on the movement of perishable food in refrigerated railroad cars, trucks and airplanes, but more is needed, especially with automatic temperature control. More effective refrigeration that can lower the cost of shipping and loss through spoilage is a goal of engineering research. More critical is the need for research in better livestock transportation. Present day trucks and railroad cars are ruining too much high priced meat and leather. Our aim is to engineer transportation facilities to eliminate much of this unnecessary damage.

6. Processing — to make the farmer more than just a supplier of raw materials—is also on our research docket. Field graders and crate dumpers for improved handling of Michigan fruit will both be produced commercially this year, a recognition of the research work of Levin and Gaston of the Michigan staff. In the Northwest fiber flax production is being put on a production line basis through research, and this year, as a result of this successful work, flax produc-

Peanut Suits Make Moths Unhappy

Almost everyone in Great Britain — except the moths — is jubilant about a new synthetic wool made from peanuts which has just gone into commercial production at Dumfries, Scotland. The moths won't touch it.

Britain's African colonies are among the world's biggest growers of peanuts, thousands of tons of which are imported into the British Isles every year for making margarine.

Theory behind the peanut fiber synthetic is that, since wool is a protein, a protein must be used to make an artificial wool fiber. Although the synthetic has all the warmth of real wool, it is not so strong. For this reason it is mixed with another fiber, such as wool, cotton, rayon or nylon, before being made into cloth.

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tion for fiber is expected to be three times greater than it has been at any time since World War II.

In the other corner of our country, down in Florida, production line processing research is developing efficient methods of getting the long vegetable fibers from such strange sounding crops as ramie, kenaf and sansevieria. This work is getting the backing of the U.S. Navy, as well as industry. Both are often hard put to get adequate supplies of manila hemp, and the fibers of these home grown products have been found to serve just as well.

Other processing research conducted here in Michigan that will surely become more popular over the country is the planning and outfitting of community food preparation kitchens in connection with freezer locker plants. Since the engineering phases of these kitchens were worked out, this type of community kitchen service has been growing in popularity by leaps and bounds.

• **Extension Goes Hand in Hand With Research**—You people know as well, if not better, than I, that agriculture is this nation's basic industry and as agriculture goes, so goes the welfare of all of us. I hope that the important role of agricultural engineering is just as apparent to you. Research and training must march hand in hand to provide us with what we need from our land and yet retain its productive ability for future generations. While our research men are developing methods and equipment to handle efficiently the rubber producing guayule, you in Extension must be training the farmers of Michigan to properly maintain, adjust, operate and care for the machines that they have.

While research is finding new uses for electric energy in ultrasonics and radio frequency, you must be showing the farmer how to best use electricity as a production tool to cut down his hand labor.

While research engineers are developing plans for more efficient barns and more useful and serviceable farm buildings, you must be educating farm people to maintain their buildings and keep them in good shape; to modernize their structures to better fit their needs; to adapt their buildings to reduce loss and waste of stored products; to cure and dry grain and hay; to shelter their machines, their animals and themselves.

Although Michigan has been a leader in safety education, we can not let down in our effort to reduce farm accidents. While our engineers continue to work on ways of taking the hazards out of farming and homemaking, you must continue to make Michigan people more conscious of accident and fire hazards. Between us, we can save many lives.

I repeat that we must not forget that defense mobilization in this emergency is requiring that fewer American farmers produce more feed and fiber. Whether or not this need can be met depends on how efficiently the farmer can use the tools of high production — power machines and structures.

The great importance of engineering is apparent in this time of mobilization. The application of machines, power, electric energy, engineered structures and methods can produce bigger and better crops and livestock—and with less manpower, but they require farmers skilled in their efficient use.

The research engineer can place these important tools at the command of the farmer and you people can teach him to use these tools to achieve our nation's food and fiber needs.

Soybean Receipts Drop Sharply in May

Inspected receipts of soybeans in May were a third below April and the smallest for May in the past three years, according to reports to USDA. Inspections totaled 4,210 cars in May compared with 6,483 in April, 4,906 in May 1950 and 6,519 in May 1949. Inspected receipts for October through May amounted to 110,091 cars this season compared with 87,824 cars for the same months last season.

Quality of the soybeans marketed in May continued good, 86 percent grading No. 2 or better compared with 89 percent in April, 90 percent in May 1950 and 69 the 10-year May average.

Inspections of soybeans in May included the equivalent of 201 cars inspected as cargo lots and 77 cars as truck receipts.

N. M. Extension Service Appoints D. I. Nelson

Duane I. Nelson has been appointed assistant extension editor at New Mexico A. & M. College, G. L. Boykin, associate extension director, has announced.

Mr. Nelson has been farm service director for Radio Station KRVN, Lexington and Lincoln, Neb. He was assistant extension editor at the University of Nebraska from 1946 to Feb. 1951.

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Soybean Gets Comprehensive Treatment In Two Volumes Edited by Markley

Soybeans and Soybean Products, issued in two volumes by Interscience Publishers, Inc., New York, is the first comprehensive treatment of the whole field of the science and technology of the soybean. It was edited by Klare S. Markley of the Southern Regional Research Laboratory, New Orleans, and was prepared by a group of experts who possess the needed detailed knowledge of the numerous fields emcompassed by the soybean and its derived products.

The phenomenal history of the soybean in the U.S., as well as in the entire world, justifies the comprehensive treatment accorded the crop in the two-volume work. Within the past 25 years the soybean has taken over first place among the oilseed crops and has been responsible for the creation of new industries and the expansion of many others long established. This development is reflected in an abundance of scientific and technical publications, but a simple reporting of them would fail to do justice to the complexity of the subject. Personal experiences of the authors had to be added to create a comprehensive and authoritative picture. Technological processes are treated primarily from the viewpoint of present industrial practice in the U.S., but the general treatment is worldwide in scope.

Volume 1 deals with production, structure and composition, and processing of the soybean. Processing is continued in Volume 2, which also includes utilization of soybean products.

Volume 1, issued Nov. 1950; 6 by 9 inches; 558 pages, 123 illustrations, 92 tables, 1 plate; $11. Volume 2, issued Feb. 1951; 6 by 9 inches; 600 pages, 92 illustrations, 81 tables; $11. Available from Interscience Publishers, Inc., 250 Fifth Avenue, New York 1, N. Y.

• National Farm Safety Week is scheduled for July 22-28. Safety must be practiced every day in the home and on the farm if the needless deaths and injuries that occur every day in the nation from accidents are to be reduced.

• Last year county agricultural agents in Texas trained 4,200 4-H boys in 127 counties in plant and grass identification.

Alligator V-Belt Fasteners and the open end, (long length) V-Belting, in rolls, are now being used by the cotton gin manufacturers on their new gins as original equipment.

Replacement parts can be obtained from your cotton gin manufacturer or your local supply house.

Bulletin V-211 gives complete details. A copy mailed on request.

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THEY'RE made of tough, strong steel designed to resist internal strain and external abrasions . . . that's why U·S·S Arrow Cotton Ties do *not* cut through at the buckles. They hold bales firm, neat and compact until they arrive at their destination.

More U·S·S Arrow Cotton Ties are used in the South and Southwest than any other brand. That proves what southern ginners think of them. They are produced, from ore to finished product, by the South's largest steel mill and the world's largest producer of cotton ties.

You can get the U·S·S Arrow Cotton Ties you need from warehouses conveniently located in the Cotton Belt.

Look for the "T" on the buckle of genuine U·S·S ARROW COTTON TIES

The standard bundle of U·S·S Arrow Cotton Ties contains 30 ties, 11½ feet in length, and 30 buckles. It weighs approximately 45 pounds. Ties are 15/16" wide and approximately No. 19 gauge steel.

Special Arrow Ties, 12 feet in length, weigh about 60 pounds per bundle of 30 ties and 30 buckles. Ties are 15/16" wide and approximately No. 18 gauge steel.

High Density Compress Bands are also available 30 ties to the bundle in specified lengths, without buckles.

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USS **ARROW COTTON TIES**

UNITED STATES STEEL

1,900,000 Ton Increase—

Fertilizer Use Hits New High in 1950[1]

An unprecedented 18,346,132 tons of fertilizer were consumed in the U.S. in 1950, according to the National Fertilizer Association. This was an increase of 1.9 million tons over 1949 consumption of 16.4 million tons, and 15.8 million tons greater than during 1901, a half century ago.

According to USDA fully one-fourth of all crop production is directly attributable to the use of fertilizer. Since the value of all crops produced in 1950 was $12.3 billion, the farmers of this country received $3 billion additional income from the $744 million they invested in fertilizer last year. The additional income from each dollar spent for fertilizer in 1950 was $4.13.

Fifty years ago, little or no fertilizer was used in 15 of the 45 states then included in the U. S. The continued westward movement of the population during the past 50 years plus the increased knowledge concerning advantages of the use of fertilizer have worked together so that an appreciable amount of fertilizer is used in each of the 48 states. North Carolina alone used 800,000 tons, 10 percent of all fertilizer sold in this country last year, while Nevada used but 1,940 tons, 1/100 of 1 percent.

Crop production figures show that tremendous increases in crop yields have occurred during the past half century. This increase in yields corresponds to the intensity of the use of fertilizer. Water, seed, machinery and innovations in methods of farming play an important part in determining the size of crop harvest.

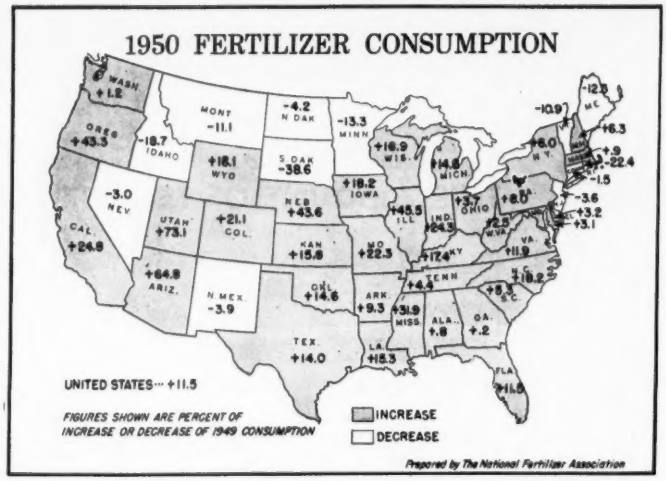
In the turn of the century, 265 million acres of crop land, tilled by about 13 million farm workers, were needed to supply the crops required by our population of 75,995,000. Last year, about 10 million farm workers produced from the same 345 million acres of land, enough to supply our 151,678,000 citizens and some peoples abroad.

Thus, in little more than a half century, one farm worker with fertilizer has produced enough food for himself and five other persons; last year his counterpart produced as much as one person, using seven times as much fertilizer, supplied the crops needed for seven persons. [illegible] use and 14 additional persons.

Last autumn farmers bought for spring more fertilizer was sold before during storage than ever before in any period.

• **South Atlantic States Lead**—The largest increase in consumption of fertilizer was recorded in the South Atlantic states. In 1950 South Atlantic states used fertilizer were 600 more tons of fertilizer used during the preceding year than this area than in any other region. North Carolina's record consumption was the largest of any single state, with 1,819,000 tons. Approximately 34 percent of all fertilizers consumed in the South and 14 percent of all fertilizer used in the South Atlantic states. country were

Second in increase in consumption was the East North Central states. In 1950, the East North Central states used 3,316,600 tons of fertilizer, compared to 2,800,000 tons in 1949, an increase of 18.6 percent. The state of Illinois registered an increase of 45.5 percent compared to the previous 12 months.



• **South Central States** — A gain of 465,000 tons of fertilizer was reported for the eight states that comprise the South Central states. Alabama reported an .8 percent increase to 1,054,754 tons, the largest in the region.

Percentagewise, the largest regional gain was reported in the western area of the country. Use last year was 1,075,236 tons compared to 882,019 tons, a gain of 21.9 percent. Utah recorded a phenomenal increase of 73.1 percent while Arizona's increase amounted to 64.8 percent.

Despite a drop in fertilizer consumption in three of the seven states included in the West North Central states an overall gain of 12.5 percent was noted in this area. Nebraska reported the largest increase, 43.6 percent while South Dakota, its neighbor to the north, had a decrease of 38.6 percent for the year, probably due in part to unfavorable weather during the previous growing season.

The three states in the Middle Atlantic region, New York, New Jersey and Pennsylvania, reported the smallest area increase—72,000 tons. Estimated consumption in Pennsylvania was eight percent greater in 1950 than in 1949.

Only two states in New England, New Hampshire and Massachusetts, reported increased usage of fertilizer during the past year. The New England states registered a nine percent decrease in fertilizer consumption. The largest drop in tonnage was reported in Maine, a decrease of some 28,000 tons. Vermont was the recipient of the greatest amount of fertilizer distributed by USDA's Soil Conservation Service, 29,357 tons in 1950, 1/3 of the total SCS distribution for its soil conservation program.

This annual survey is possible, the National Fertilizer Association declared, because of the excellent cooperation given it by state agriculture department officials. Fertilizer consumption figures are taken from tax tag sale reports, state shipment reports and state fertilizer use reports. In isolated instances estimates must be made from figures furnished by reliable authorities. The figures do not include rock phosphate, gypsum, barnyard manure and soil amendments.

[1] Reprinted from Fertilizer Facts for April-May-June, 1951, published by National Fertilizer Association.

Missouri Ginners to Have School July 11

The Arkansas - Missouri Ginners' Association and the Missouri Extension Service are sponsoring a Cotton Gin Operator School for Missouri ginners at Portageville, Mo., July 11.

Registration for the school will be gin at 8:45 a.m. in the High School Auditorium, where the school will be held. J. M. Ragsdale, marketing and ginning specialist at the University of Missouri, Columbia, will preside.

Speakers at the morning session will include: J. W. Burch, director of the Missouri Extension Service, Columbia, who will talk on "Agriculture's Responsibility in Mobilization"; Charles M. Merkel, agricultural engineer, U. S. Cotton Ginning Laboratory, Stoneville, Miss., "Drying and Cleaning Cotton in Missouri"; Vernon P. Moore, cotton technologist, Stoneville Cotton Laboratory, Stoneville, "Effects of Modern Gin Machinery on Fiber Properties"; and Charles A. Bennett, in charge, U. S. Cotton Ginning Investigations, Stoneville, "Current Ginning Methods."

A. M. Pendleton, USDA extension ginning specialist, Dallas, Texas, will conduct a discussion period before the school adjourns.

In the afternoon cotton ginning demonstrations will be given at Stillman Gin, Peach Orchard; A. C. Riley Gin, New Madrid; Killion-Rone Gin or Union Farmers Gin, Portageville.

The USDA and extension ginning specialists and engineers from gin machinery companies will be available for personal conferences with ginners during the evening of July 11 and until noon July 12 at the Twin Oaks Hotel at Portageville.

Haiti's Cottonseed Production Drops

Cottonseed oil is the principal vegetable oil product of Haiti. Outputs in 1950 amounted to about 670 short tons compared with 680 in 1949 and about 820 in 1948. The decrease of recent years has resulted from the continued decline in the annual Haitian cotton production. As a by-product of oil manufacture, Haiti produced approximately 2,790 tons of cottonseed cake the past year.

Castor bean production in Haiti is practically equivalent to exports since only a small quantity is processed locally. Exports during the fiscal year 1949-50 totaled 3,637 tons against 2,578 in 1948-49 and 2,713 in 1947-48. All of the castor beans were exported to the U.S.

Commercial production of coconut oil has practically ceased in Haiti. Dealers state that it can be sold locally only when no other cooking oil is available.

Exports from Haiti during the fiscal year 1949-50 included the 3,637 tons of castor beans mentioned above, 2,141 tons of cottonseed cake and meal, and 50 tons of cashew nuts. The bulk of the shipments went to the U.S. Because of impending cattle-feeding developments in the Plateau Central, the government placed a restrictive tax last fall on all exports of cottonseed cake over an established fraction of the local production. This was done to encourage the local utilization of cottonseed cake and meal for cattle feed.

Imports during 1949-50 included 212 tons of butter and butter substitutes, 641 tons of edible oils, 2,965 tons of lard and lard substitutes, and 6,173 tons of soap. The U. S. was the largest single supplier. The high level of imports of late years reflects the general prosperity in the country as well as the decrease in the local production of vegetable fats and oils. Wih the declining cotton crop and increasing local purchasing power, imports of vegetable and animal oils and fats are expected to continue heavy.

Texas Fair to Have New Livestock Pavilion

Construction has started on a new $125,000 Livestock Judging Pavilion that will be completed in time for the 1951 State Fair of Texas, Oct. 6-21, at Dallas.

R. L. Thornton, president of the state fair, said the new pavilion will fill a need long felt by fair officials, livestock exhibitors and fair visitors.

"We finally will have a suitable place to show fine livestock," Mr. Thornton said. "It will show cattle and horses in a setting calculated to bring out their best points and will be cool and comfortable for the spectators."

The pavilion will have an arena 90 feet wide and 180 feet long. There will be seats for 3,200 spectators.

Adjoining the huge $250,000 cattle barns completed in 1948, the structure will complete facilities for showing and viewing livestock that are unsurpassed in the Southwest, Mr. Thornton said.

USDA Economist to Study Mexican Cotton Growing

A study of cotton production in Mexico is to be made by a USDA specialist, P. K. Norris, under the Research and Marketing Act. He will confer with representatives of the Mexican government, cotton producers, cotton trade members, and U.S. officials in Mexico.

Mr. Norris will collect first-hand information in Mexico's cotton-growing districts regarding potential production, cotton consumption and marketing, and international trade in cotton grown in Mexico during the current crop year. He will give particular attention to the influence which expanding cotton acreage in Mexico may have upon the world cotton supply and to some of the techniques used in cotton processing.

Empire Breeder Gets Award

W. W. Ballard, father of Empire cotton, has been given the USDA Superior Service Award.

Mr. Ballard, cotton breeder for USDA's Bureau of Plant Industry, Soils, and Agricultural Engineering, is stationed at the Georgia Experiment Station. He was called to Washington to receive the award which was given in a special ceremony on the Washington Monument grounds.

According to USDA, the award was given for "research culminating in the production of a superior variety of cotton and for devising new techniques in cotton breeding." Mr. Ballard developed Empire Cotton from a selection that was made from Stoneville about 15 years ago.

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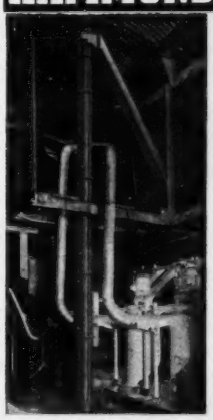

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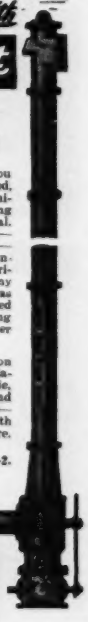

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French West African Peanut Crop Is Below Average

French West Africa's 1950-51 peanut crop is now placed at about 612,400 short tons of unshelled nuts, or some 110,000 tons less than the 1949-50 harvest and considerably below average. The loss occurred almost entirely in Senegal, principal producing territory, and was due principally to abnormally heavy rains during August and September of last year. Production in other areas—Sudan, Upper Volta, Niger and Guinea—was approximately the same as that of the preceding year.

In addition to the damage caused by heavy rains, the short peanut crop also may be explained by two other factors: (1) the annual movement of farmers from the Sudan to the producing areas of Senegal was lighter than the preceding year and (2) some of the seed distributed for planting was eaten instead.

Not only was this harvest very small but the quality was below standard in Senegal. Whereas the oil content of unshelled peanuts as a rule averages 32-33 percent here, this percentage dropped to about 31 percent this season.

Prior to the 1949-50 harvest, output of peanut oil was controlled in that a certain proportion of the peanuts was distributed to each oil-producing factory and a certain proportion to the oil factories in France. The supply of peanuts to oil factories in 1950 was uncontrolled and plants obtained whatever supplies they could at the fixed prices. The 13 peanut oil factories processed 272,930 tons of unshelled peanuts and turned out 63,930 tons of crude oil and 20,900 tons of refined oil. In addition, about 3,300 tons of crude oil were produced by primitive hand presses in native villages, bringing the total peanut oil production to 88,000 tons.

French West Africa supplies its entire vegetable oil needs as well as about 40 percent of the vegetable fats and oils consumed in Metropolitan France. There are very few plantations in the generally accepted sense. With the exception of the Kafrine experimental government plantation for peanuts and the Compagnie Generale des Oleagineux Tropicaux peanut project in Lower Senegal (still in the initial stage) peanut crops are grown on small native farms. The tonnage of peanuts produced on hundreds of thousands of such farms cannot be accurately estimated because the quantity the farmer may retain for his personal needs depends on the availability of other foods. Consumption of peanuts as food, seed or oil was estimated at about 255,000 tons in 1949.

French West Africa exported 220,824 tons of shelled peanuts, 1,341 tons of unshelled nuts, 63,493 tons of crude peanut oil and 15,261 tons of refined oil in 1950, with France and the French Union taking by far the bulk of the shipments. There is a continuing trend toward increasing the proportion of shipments of oleaginous products in the form of oil. Exports of unshelled nuts fell to an insignificant volume in 1950. It is expected, however, that in 1951 there will be a substantial increase in unshelled tonnage in reversal of the trend toward shelling prior to export. The reason reported for this is that the use of the shells for fuel more than compensates for the increased freight charges involved.

Egyptian Cotton Outlook

The outlook for the 1951-52 cotton crop in Egypt is generally favorable. Planting was completed for the most part in March under ideal climatic and soil conditions. Preliminary forecasts of planted acreage by private sources range from 2,010,000 acres, somewhat below the 1950-51 harvested acreage of 2,050,000, to as much as 10 percent above the 1950-51 acreage, or 2,255,000 acres.

• The first patent for a machine to pick cotton was granted in 1850.

ED. M. BAYLISS, Jr.
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N. M. Producer Says

It Pays to Control Insects Early

Ed Gary, Rincon Valley cotton farmer, is a firm believer in the old adage that "an ounce of prevention is worth a pound of cure" when it comes to fighting cotton insects. Mr. Gary, one of the farmers in Dona Ana County, who carried out an early season control program on cotton insects last year, claims that it paid him dividends by returning about one-third of a bale more per acre on cotton fields treated with early season spray.

In fact, Mr. Gary was so well satisfied with the results of the early season control program on his 1950 crop that he plans to follow the same program again this year. "Last year we started spraying the fields for the first time when the cotton was about in the four-leaf stage," Mr. Gary explained. "The first spraying was followed about two weeks later with a second. The final application was made two weeks later. All, of course, were primarily for the control of early season insects such as thrips, aphids and fleahoppers. We used toxaphene in all three sprays—about a pint to the acre in the first two sprays and a pint and a half to the acre in the final spray."

Mr. Gary said he noticed several distinct advantages in the early season sprays for the control of harmful insects. For one thing, he pointed out, the cotton which was sprayed early immediately "bounced" and in a week's time had gained from two to three inches in height over the cotton that had not been sprayed. That "shot in the arm," declared Mr. Gary, helped the cotton in that critical period when it was just beginning to grow and got it past that eight-leaf stage in a good healthy condition so that it was able to tolerate some attacks by insects. Too, he said, this early season control helps in making that bottom crop which many farmers call their "money crop." The treated cotton blooms earlier than the untreated cotton which, of course, results in earlier maturity.

As for the effect of the early season spray on beneficial insects, Mr. Gary pointed out that an insect count on the sprayed plots last year showed that ladybugs were present in good numbers, indicating that the early sprays had not affected them.

Mr. Gary estimated that in 1950 his early season insect control program cost him about $2 an acre for the three sprays. Considering the returns from the increased yield of one-third bale per acre, the early spray program increased his net returns on cotton by about $50 per acre. Multiply that by the 102 acres which he treated last year.

Pillsbury Names P. S. Gerot Executive Vice-President

Paul S. Gerot has been elected executive vice-president of Pillsbury Mills, President P. W. Pillsbury has announced.

Mr. Gerot joined the oil mill operating firm which has headquarters in Minneapolis, Minn., in 1926 as a salesman in St. Louis. He was named a corporate vice-president in April, 1950, and a company director last December.

Soybean Grading in Delta Is Discussed at Meeting

Problems in the grading and marketing phase of soybeans were discussed at a meeting in the Delta Branch Experiment Station Auditorium, Stoneville, Miss., June 28.

The meeting was sponsored by Delta Council in cooperation with the Extension Marketing Service, State Department of Agriculture, USDA, Grain Branch, and Delta Branch Experiment Station. Upon the request of a number of grain elevator operators, grain operators, grain brokers and others interested in soybean marketing, the group placed emphasis on developing a method to secure a complete grading service for the area.

1950 Was Safer Year for American Workers

American workers were a lot safer in 1950, the National Safety Council reports.

Industrial injury rates for last year, released by the council in advance of the 1951 edition of its annual statistical yearbook, "Accident Facts," show a substantial reduction in both the frequency and severity of 1950 accidents as compared with 1949.

The accident frequency rate for employees in all industries submitting company reports to the council, based on the number of disabling injuries per 1,000,000 man-hours, was 9.3 in 1950—a reduction of eight percent from the year before.

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U. S. Mill Consumption Is Second Highest on Record

Mill consumption of cotton during the first nine months of the 1950-51 season was about 23 percent larger than a year earlier and the highest on record for the period except for 1941-42 and 1942-43, USDA-BAE has reported.

Mill consumption of cotton is expected to continue high through the rest of the season. Although the large inventories of manufacturers and department stores indicates some slackening in demand from civilian consumers, this will probably be partially offset by increased demand for heavier type fabrics for military and industrial purposes. The average daily rate of mill consumption of cotton in April declined sharply from the high March level, due partially to the strike in some Southern textile plants.

Mill consumption for all of the current season (August 1950-July 1951) probably will amount to about 10,760,000 bales. This is higher than any other season except 1941-42 and 1942-43, when the U.S. consumed more than 11 million bales. The estimate for the current season is based on a projection of the daily rate of consumption during the first nine months of the season with an allowance for the usual seasonal declines in June and July. Exports of U.S. cotton are expected to total about 4.2 million bales, including an additional export allocation of 200,000 bales announced on April 30.

Total disappearance for the season (mill consumption plus exports) is expected to be about 15 million bales. Since the total supply is estimated at 16.9 million bales (carry-over on Aug. 1, 1950 plus ginnings and exports), the carry-over at the end of the current season probably will be about 1.9 million bales. Most of this probably will be owned by cotton mills. At the beginning of May, cotton on hand at mills amounted to approximately 45 percent of all the cotton in the country.

Half Million Fewer People Are Working on Farms

People working on farms in May totalled a half million less than a year ago and about 1½ million less than the post-war peak in 1946 and 1947, USDA has reported.

There were 11,010,000 persons employed on farms during the week of May 20-26. Of the total, 8,747,000 were operators and unpaid members of their families and 2,263,000 were hired workers.

The decline in farm employment is partly a continuation of a decrease which started in 1949. In the period from 1946 through 1948, the number of people working on farms increased as workers in war plants and armed forces returned to farms. In 1949, a long time downward trend again appeared. During war and especially after wartime shortages were relieved, farmers purchased large numbers of labor-saving machines. This movement toward use of labor-saving machinery decreased the need for farm labor. However, in the past year demands for manpower for the armed forces and for industrial production have, no doubt, been a factor in reduced farm employment.

Turkey's 1950 Oilseed Production Is Down

Production of vegetable oilseeds during 1950 in Turkey was approximately 376,500 short tons, according to revised estimates. This represented a decrease of about eight percent from the 408,600 tons produced in 1949.

Cottonseed ouput is placed at 212,000 tons for 1950 against 204,000 tons in 1949. Of the total 1950 production, about 150,000 tons are available for crushing, 27,500 tons were withheld for 1951 plantings, and 23,541 tons of seed, 37,218 tons of oilcake, and 11 tons of oil were exported.

Cottonseed production in 1951 is expected to show an increase above the previous year inasmuch as an increase in cotton acreage by as much as 20 percent is in prospect.

Sunflower seed output in 1950 was revised downward from an earlier estimate of 115,000 tons to only 73,000 tons. Because this oilseed is also an important source of edible oil, about three-fourths of the crop, or 54,800 tons, was crushed for oil. Seed exports amounted to 12,020 tons in 1950.

Turkey's 1950 flaxseed crop of 1,098,000 bushels was less by about one-fifth than in the 1949 season. This crop is grown principally for export, and during the year 884,500 bushels were exported. Probable seed use for the 1951 crop was set at 197,000 bushels.

Minor oilseeds grown in Turkey are sesame seed (33,000 tons), poppy seed (11,000), peanuts (4,400), hempseed (4,700), and smaller quantities of rapeseed, soybeans, aniseed and safflower seed.

Exports of oilseeds, oilcakes, and vegetable oils in 1950 amounted to roughly 107,000 tons, of which 69,000 tons were oilseeds, principally cottonseed, flaxseed and sunflower seed; 37,800 tons included sesame, cottonseed and olive oil cake and meal; and only 250 tons of various vegetable oils. While, in total, these exceeded 1949 exports in tonnage by at least 15,000 tons, the value was lower than in 1949 by one-third. This was due to a marked decrease in the export of vegetable oils in 1950 and to much lower export prices for the principal oilseeds—flaxseed and cottonseed.

Schmitz Heads SW Division Of General Mills

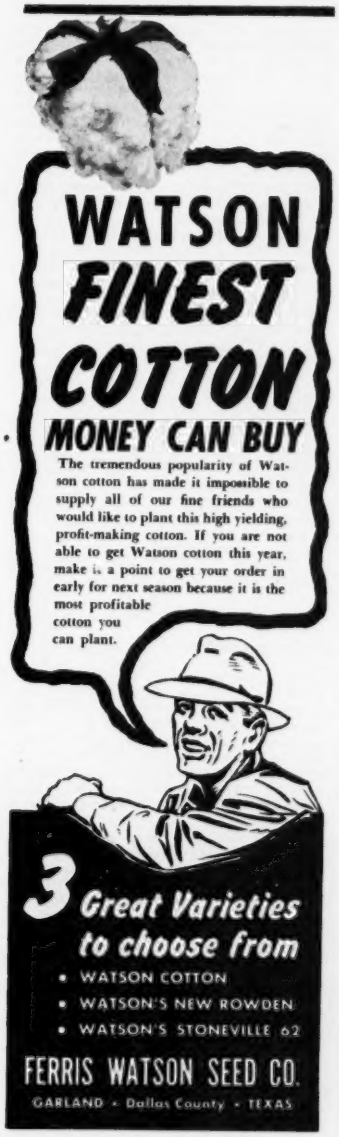
Joseph G. Schmitz has been elected president of the Southwestern Division of General Mills, Minneapolis, Minn., oil mill operator, succeeding James S. Hargett, who retired June 1.

Mr. Schmitz joined General Mills in 1929 and helped form the Southwestern Division eight years later. He was vice-president and general flour sales manager of the Southwestern Division until last January, when he left the firm for three months to serve as flour consultant to OPS Director Michael V. DiSalle.

Blaw-Knox Designs Large Canadian Soybean Plant

Chemical Plants Division of Blaw-Knox Co. is designing and furnishing a new 150-ton-per-day soybean extraction plant for Toronto Elevators of Toronto, Ontario, Canada. The order for modern U.S. processing facilities is evidence of the continuing growth of the soybean crop over a wider area of North America, Blaw-Knox officials point out.

Under the contract, Blaw-Knox will supply Rotocel processing equipment and machinery and will supervise field procurement, erection and initial operation. Available Canadian materials and labor will be used in the construction. The equipment will be housed in a two-part building, one for flake preparation and the other for extraction, meal handling and oil finishing.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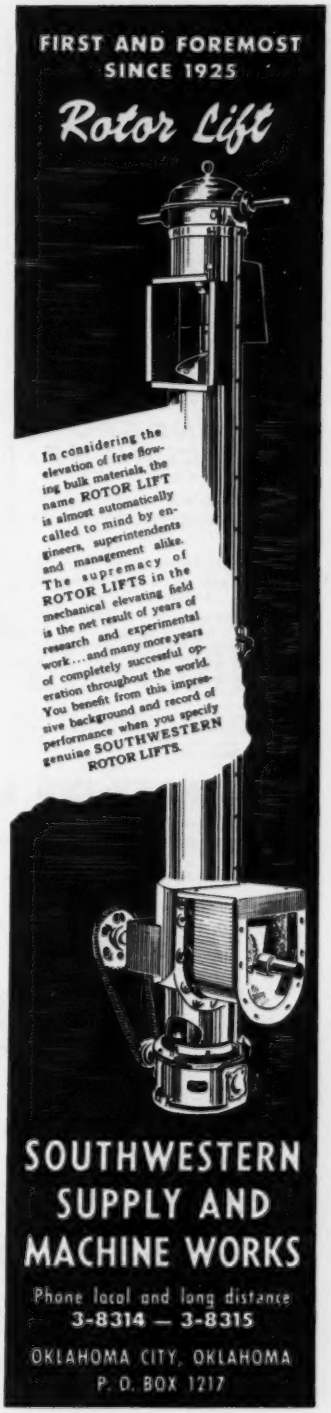
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British East Africa Has Drop in Cotton Output

The 1950-51 production of cotton in the British East African colonies of Uganda, Kenya and Tanganyika is estimated at 328,000 bales (500 pounds gross weight), or slightly below the 333,000 bales produced in 1949-50. Picking of the crop was completed in February.

Production in Uganda decreased 13,000 bales to about 270,000 bales in 1950-51, but this decline was partially offset by a 14 precent increase in production in Kenya from around 7,000 bales in 1949-50 to 10,000 bales during the current season and the 48,000 bales produced in Tanganyika, which was about 12 percent above the 1949-50 crop of 43,000 bales. The decline in Uganda production was caused by late plantings, unfavorable weather conditions and a shortage of migratory laborers usually obtained from the Belgian Congo during the cotton season. Increased output in Kenya and Tanganyika is attributable in some degree to increased acreage, but more to improved yields resulting from favorable climatic conditions and lack of insect infestation.

Local consumption of cotton in British East Africa is practically nil, being confined mainly to upholstering and blanket manufacturing. Plans have been made for the construction of a textile mill in Uganda, using electric power to be supplied from the Owens Falls hydroelectric project scheduled for completion in 1954. Production of this mill is expected untimately to reach 27 million yards of cloth annually.

Marketing of the Uganda cotton crop, along with the crops from the interior provinces of Kenya and Tanganyika around Lake Victoria, is handled through the Uganda Lint Marketing Board, a government-sponsored organization established in October 1949 and consisting of representatives from all branches of the cotton industry. Under the present system, the board purchases all cotton from the native growers at a fixed price, pays a fixed commission to the ginner, and then markets the lint cotton in accordance with prior arrangements.

The production goal established by the government of Uganda is 415,000 bales (500,000 East African bales), which is considerably higher than the crops in any recent years. As a step toward reaching this goal a new experiment station was placed in operation in Uganda late in 1950 which will continue research with seed of higher-yielding varieties of cotton that have greater resistance to disease and insect (jassid) attack. Irrigation and fertilization of cotton acreage are being developed in certain areas. In addition, the local food situation has improved to the extent that more land can be devoted to cash crops in the future. The sole deterrents to the attainment of this goal, but very sizeable obstacles in East Africa, are the small size of native farms which prevent efficient production, the poor farming methods practiced by the natives, and the ever-present factors of insects and undependable weather.

• The top winner in Georgia's 1950 4-H Club hybrid corn contest, Ben Bryant, Whitfield County, grew 181 bushels of corn on an acre.

Newton Leaves Southern Lab, Goes to Washington

Harry P. Newton, assistant director of the Southern Regional Research Laboratory, New Orleans, La., has accepted the position of chemical consultant to the chief of the Bureau of Agricultural and Industrial Chemistry in Washington, D. C., effective July 1. With headquarters at Camp Detrick in Frederick, Md., he will serve as liaison between this bureau, which is the USDA agency responsible for research on the utilization of farm crops, and the Department of Defense.

Mr. Newton was the second employee appointed to the staff of the Southern Regional Research Laboratory after it was established in 1938, and the first to arrive in New Orleans. As technical assistant to the director, he carried much of the burden of initial organization and administration, making valuable contributions in public relations, personnel enlistment and the formulation of the research program. Except for a period of military duty from 1942 to 1945, he has been a key man at the laboratory ever since. On his return from military duty in 1945 he was offically made assistant director.

Venezuela's New Margarine Plant Expands Production

The capacity of Venezuela's new margarine plant, Mavesa (Margarine Venezuelan South America), to pack substantial quantities of vegetable shortening when tinplate becomes available foreshadows further restrictions on hog-lard imports into that country. Not only is Mavesa equipped to produce margarine and vegetable shortening, it is equipped also to produce salad oils—that is, when sufficient tinplate becomes available. For the present, therefore, this machinery will remain idle.

Production of margarine in the Mavesa plant, situated on the outskirts of Caracas, has expanded so that, on a two-shift basis, the plant is now producing 17 to 18 short tons per day. In one year, on the basis of operating seven days per week, this would mean an output of about 6,450 tons.

The plant processes its margarine from imported primary materials. Currently, the pack is from roughly equal parts of cottonseed and coconut oils which come from the U.S. Two other oils are used also, but in very small quantity. Cottonseed and coconut oils are brought in duty free to help this new Venezuelan industry develop.

Chinese Cotton Mills Close

Chinese communists are reported to have closed all cotton mills in China for a month and a half starting June 6 because of a shortage of raw cotton.

Although the 1950 cotton crop was reported to be about 2.5 million bales compared with the small 1949 crop of 1.7 million bales, the supply is still insufficient to meet the demands of the cotton mills and the large cottage industry. A contributing factor to this temporary suspension of mill operation is the decreased imports of raw cotton into China during recent months resulting indirectly from Chinese intervention in Korea.

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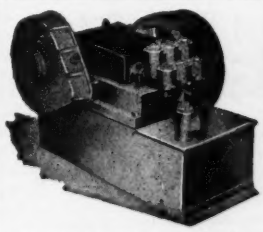

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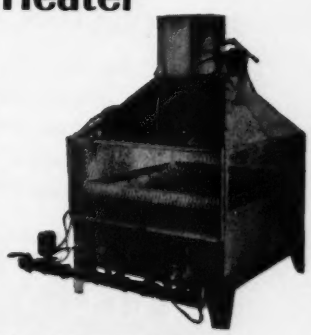

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Pioneers of the Deep Groove Ball Bearing, the Self-Aligning Ball Bearing, and the Spherical Roller Bearing.

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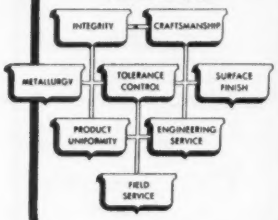

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Laugh It Off

Back in the cold days of February, a certain girl dismissed her sweetheart with the flat statement that she could not think of marrying him until he had a few thousand dollars. Last week with the world in bloom, he reappeared. "How much," she asked him, "do you have saved up?"

"Thirty-five dollars."

"Well," she said, "I guess that's near enough."

• • •

Two ex-G.I.'s were discussing the forthcoming marriage of a buddy.

"He's getting a wonderfully accomplished girl," said one of them. "She can swim, ride, dance, drive a car, and pilot a plane—she's a real all-around girl."

"Yes, they should get along fine," observed the other. "You remember, Ben learned to cook in the army."

• • •

Cowboy: "Getting your saddle on backwards, aren't you?"

Dude Rancher: "That's all you know about it, smarty. You don't even know which way I'm going."

• • •

The young man was rather shy, and after she had thrown her arms around him and kissed him for bringing her a bouquet of flowers, he jumped and grabbed his hat.

"Oh, don't go," she said, "I didn't mean to offend you."

"I'm not offended," he replied. "I'm going for more flowers."

• • •

The farmer's daughter returned from college for her summer vacation and her father looked at her critically and said, "Lost some weight, didn't you?"

The girl replied, "Yes, Father, I weigh 110 lbs. stripped for gym."

The farmer leaped out of his chair and grabbed his shotgun.

• • •

Two men were standing on a street corner when a third man came up and said, "Whhatt t-t-time is it?" The man who was asked gave no reply. Again the man asked: "Wwhatt t-t-t-t-ime is it, p-p-please." The other man turned and said, "Eight thirty!" After character number three had gone, character number two asked: "Why didn't you tell him the time, you have a watch?" To this the other replied, "Do yyyyyou t-t-think I want to gggget my b-b-b-lock knocked off?"

• • •

"Oh, mother," cried Johnny looking out of the window, "a car as big as a barn has just gone by."

"Johnny," said his mother, "why do you exaggerate so terribly? I've told you 40 million times about that habit of yours and it doesn't do a bit of good."

• • •

A general and colonel were walking down the street. They met many privates, and each time the colonel would salute he would mutter, "The same to you."

The general's curiosity soon got the better of him, and he asked: "Why do you always say that?"

The colonel answered: "I was once a private and I know what they are thinking."

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Field Representatives

LYNN BENNIE
Mitchell Representative for Tennessee, Northern Mississippi and Central Arkansas

Lynn Bennie may never have struck the Mother Lode, but he *was* an honest-to-goodness mining man. Born in Utah, he worked for a time as an engineer with the Silver King Mining Company in Park City, Utah, before moving to Texas.

His career with the Mitchell Company dates back to 1936; and, since that time, he has been employed in nearly every department of the Company. During World War II, Lynn served well as assistant plant superintendent. Between 1946 and 1949, he was the Company's main trouble shooter in the heater and vaporizer department; and, in September of 1949, he took up residence in Memphis, Tennessee to become field representative for the Company in the Tennessee, northern Mississippi and central Arkansas territories.

His varied experience at the factory and in the field well equip him to serve the needs of Mitchell customers anywhere in his area. Call on him at any time at 3480 Heckle Avenue, Memphis 11, Tennessee; telephone 33-0422.

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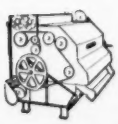
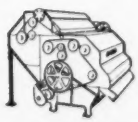
Complete file packet of information on MITCHELL machinery available on request.



CONVERTIBLE MACHINE



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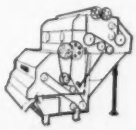

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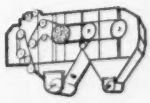

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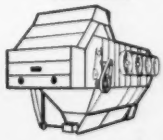

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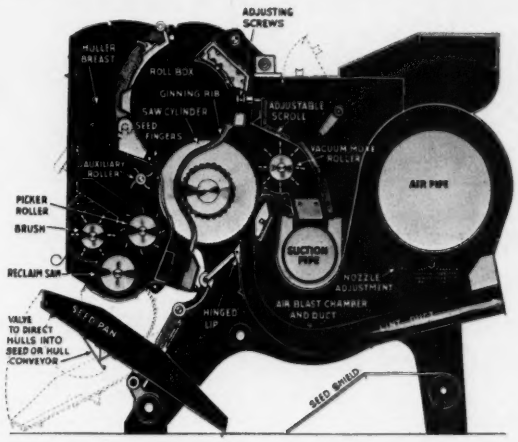

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